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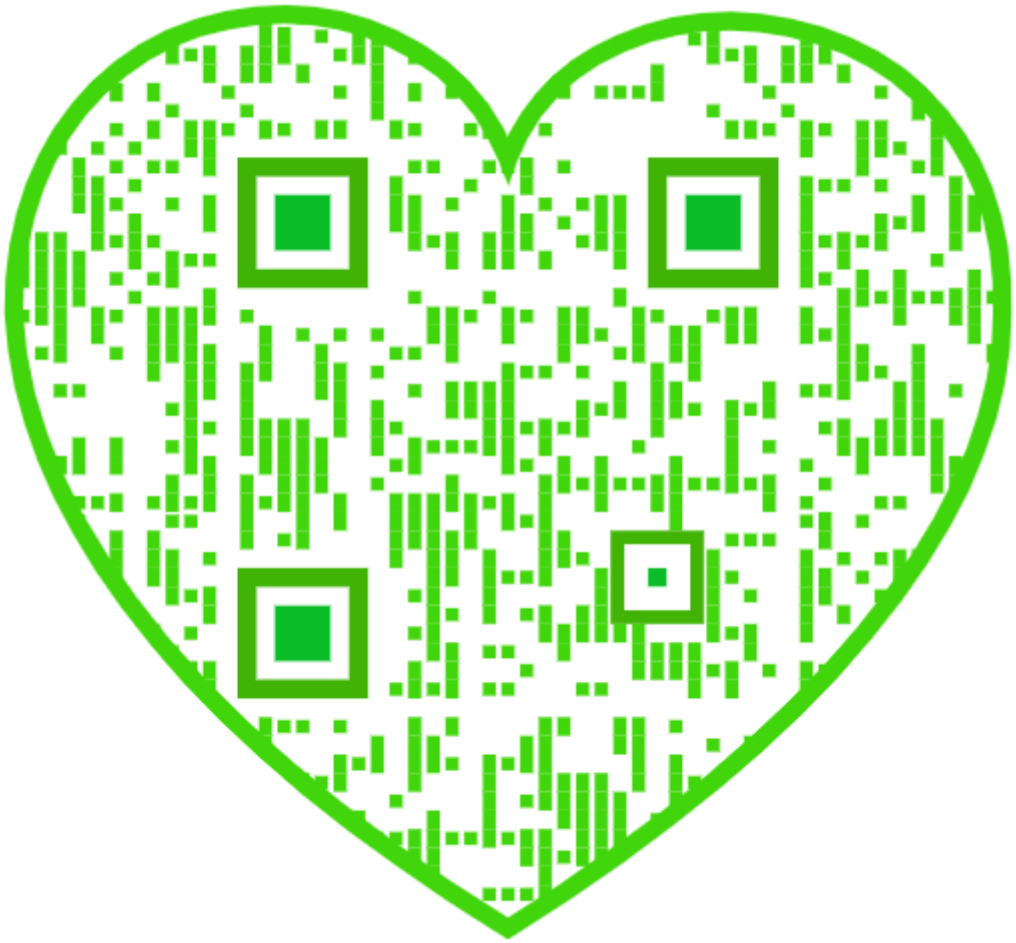

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OUR PROMINENT BEE-KEEPERS.

No. 35.—WILLIAM McNALLY.

Amongst bee-keepers, perhaps, no name is better known in Scotland than that of the subject of our notice. Mr. Wm. McNally was born in 1855, in the county of Wigtownshire, where he now resides; and, though quite a young man, he has had considerable experience of bees, and few have had greater success in their cultivation and management. His parents, who are both living, are honest working people, with a family of seven sons and one daughter. Each member of the family received a fair education, was then put to learn a trade, or whatever business was the bent of his inclination, and afterwards allowed to fight the battle of life unaided. At the age of fifteen William left school, and was shortly afterwards apprenticed to the trade of a joiner. For several years he worked as a journeyman in Glasgow and Kilmarnock, acquiring such a knowledge of his business as enabled him, at the age of twenty-two, to begin on his own account. By his steady habits and obliging manner, and being a good workman, he secured the confidence of the public, and now possesses a thriving business, which, added to a large trade in bee-appliances, together with extensive honey-raising, has provided him with a comfortable livelihood. He is, in the fullest sense, a self-made man, and his success in life is largely due to his intimate knowledge of bee-keeping. When a boy he was always in the country, and naturally acquired a liking for rural pursuits. Few can handle a gun or cast a line across the stream better. In his youth he collected what is perhaps as comprehensive a collection of British birds' eggs as can be seen anywhere.

WILLIAM MC NALLY.

Mr. McNally was first induced to start bee-keeping in 1876. Being out in company with a game-keeper on a fishing excursion, he bargained for a swarm of bees for some work done. This swarm did well, and laid the foundation of his subsequent interest in the pursuit. There were a good many bee-keepers living in the district at that time, but their methods of management did not suit our friend's energetic nature, and accordingly we find him, in 1877, taking out bees to the heather, a description of which is given in the *Record* of February, 1891. He first caught the bee-fever in earnest when visiting the Agricultural Show at Dumfries in 1878, where he saw the process of 'bee-driving' and some beautiful supers of honey-comb. The following season (1879) he owned six hives, but that being a remarkably wet year, his stock died down in the spring of 1880, and left him with only two; from these two hives he sold honey the same season to the value of five pounds, and had five stocks on hand to begin the winter with. From this time his apiary grew in extent, until it is at the present time the largest in Scotland, seldom containing less

than 100 stocks, and occasionally upwards of 150. He never could be induced to try foreign bees, although he has often handled them in other apiaries.

Mr. William McNally is best known as a successful honey producer, managing his apiary strictly on commercial lines, his only assistant being a smart youth during summer. In handling bees, he can get through a lot of work in a very short time. The neatness of his honey when put into the market is evidently one of the secrets of his success in disposing of his produce. During the season of 1887 he took three tons of honey from his own apiary, and had the whole of it disposed of by the middle of October of the same year. As an exhibitor at shows he has been very successful, having for five years in succession gained the silver medal of the Highland Society for the best and largest display of honey and honey-comb.

In 1879 he married very happily, and his partner in life takes a lively interest in everything pertaining to the bees. During the bee-season they have many visitors, and all are made heartily welcome by Mr. McNally and his good wife, both of whom we trust may long be spared as living examples of the pleasure and profit which may be obtained by bee-keeping, pursued on intelligent lines.

USEFUL HINTS.

Winter Packing and Improved Methods of Management.—It is interesting, as well as curious, to note the written opinions and observe the tendencies of bee-keepers in various parts of the world on the question of preparing bees for wintering; and, so far as we can gather from the numerous bee journals published on the other side of the Atlantic, there appears to be a decided tendency towards uniformity on many important points or methods of management between American and British bee-keepers. Take the question of outside cases, for instance. Not only are these growing rapidly in favour, but light hive-bodies and shallow-framed surplus chambers for extracted honey are almost as popular among American apiarians as here. Space below brood combs in winter, also, is becoming quite an accepted article of the bee-keeper's creed; and last, but not least, they are now beginning to realise what we have appreciated for some years past, *i.e.*, the advantages of fixed distances for frames.

In this connexion it is noticeable that their methods of progression towards efficiency have proceeded much on the same lines as were followed here. *Our* cause for wonder is that American 'cuteness' has not led to the adoption of a short cut to the desired end, instead of travelling over, in quite roundabout fashion, well-trodden ground. In a word, why they did not begin where we left off, instead of trying distance tacks, staples, hobnails, and so on, before arriving at efficiency. We trust that one or more of our appliance manufacturers will show sufficient enterprise to make up an exhibit for the Chicago Exhibition next year, and endeavour to prove to our American friends that all the good things are not confined to their own 'bee-yards.'

We also observe with much satisfaction how surely the stream of public opinion is flowing towards agreement on several other important matters connected with bee-management. The bad habit of mutilating queens by clipping off a wing to prevent loss of swarms, is dying out—the sooner it's dead the better. 'Handling hives instead of frames,' again, is a subject freely discussed in American bee journals just now, though it would appear to be as much with the object of 'booming' the Heddon hive as of making converts to the 'handling' system propounded. For ourselves, we must confess our entire inability to see 'eye to eye' with those who declare that the quickest and readiest way of finding a queen is to take a box of shallow frames from its floor-board and shake her out from between the combs on to the ground. If American bee-keepers are smart enough to do this, as some of them say, we, on this side, must be content to take a 'back seat' as manipulators of bees. But we are pleased to observe that some of their best-known men see the thing more as we do. Mr. Doolittle, referring to the same subject in an article now in type, and which will appear next week, says:—'Is it any less work to shake away on a hive till the queen is shaken out, and a lot of bees hunted over to find her, and the hive put back in place again, than it is to quietly sit on a stool and lift out the frame she is on, see her, and know what she is doing, and place the frame back in the hive again?' Judging the matter according to our lights, we fancy that readers will agree with us if we were to reply to Mr. Doolittle's query by saying No; and adding that if a troublesome, roundabout, and—to bees and bee-keeper—generally upsetting method of performing a very simple operation were wanted, the 'Heddon' plan just 'hits it off to a nicety.'

DEATH OF SIR WILLIAM GIBSON-CARMICHAEL, BART.

It is with deep regret that we announce the death of Sir William H. Gibson-Carmichael, of Castle Craig and Skirling, Peeblesshire, which took place on the 19th ult. Sir William, while not a practical apiarian, nevertheless took a keen interest in modern bee-keeping, and encouraged it by every possible means in the district in which he usually resided. He distributed numbers of colonies of bees and books pertaining to the subject of apiculture among his humbler neighbours. The Scottish Bee-keepers' Association had, since its formation, been most liberally supported by the deceased Baronet, who is succeeded in the title and estates by Mr. Thomas D. Gibson-Carmichael, well known to our readers as an enthusiastic bee-keeper, and an authority on insects generally, and who has taken an active part in the formation of the recently formed Scottish Bee-keepers' Association, of which he is the Hon. Secretary.

DEATH OF A BORDER BEE-KEEPER.

One of the most prominent bee-keepers in the Border district, Mr. Walter Douglas, of Melrose, died on the 8th ult., after a long illness. Mr. Douglas came of a bee-keeping family, and had kept bees practically all his life. He was at all times ready to assist beginners, and his services were in constant requisition in the district in which he lived. At the time of the Melrose Bee Exhibition, Mr. Douglas was one of the most regular attendants, and gave a great deal of his time to explaining the various exhibits to visitors. He was most enthusiastic about the formation of the Scottish Bee-keepers' Association, though, owing to his failing health, he was unable to be present at the Stirling Show. His uncle, Mr. Douglas, Galashiels, who was also an enthusiastic bee-keeper, predeceased him by a few days.

HUBER'S LETTERS.

Third Letter.

I was afraid, Sir, that you might not have received my letter, and, that you should not have a very bad opinion of your correspondent I asked M. de Flumet to tell you that I had written to you, and also to give me news of you. He knows what an interest I take in anything that concerns you, and you, Sir, will believe it too.

When I had the honour of writing to you, I did not know that you had occupied yourself with propolis. Your memoir was read to our Society during my stay at Lausanne, and it was only at one of our special meetings, when the minutes were read, that I learned that it was at the preceding meeting that the matter was brought forward. I asked to see your memoir, and M. Jurine passed it on to me. I read it with the greatest interest. You have succeeded in a very difficult research, and the fact which you have witnessed had never been seen or suspected by anybody. Accept, Sir, my sincere congratulations.

Allow me to refer to your observations when I entertain the Society with those that I have made on the same subject. They do not contradict each other; it is quite natural that you should think that the bees had only one way of collecting propolis, and that you might not have thought that they could get it from the buds of the black poplar, when you have seen them gather it from the leaves of this tree. The fact is that they gather it from both. We have satisfied ourselves that they take it where they can find it.

When inserting your article in my memoir, I shall only mention the fact which proves your discovery, and say nothing about the exclusion of the black poplar, which you give as a conjecture only. I shall be delighted on this occasion, as on every other, to associate my name with that of such a distinguished lover of natural history.

I have already done so, in taking advantage of the permission you gave me to use your very instructive notes on the *Sphinx atropos*. I sent them, together with my remarks, to Professor Pictet. I do not know if he will think them fit to publish in the *Journal Britannique;* perhaps the desire to render cultivators a service in warning them of the danger of this moth to the bees will induce the editors to put my observations in the agricultural part, though they are not of British origin. M. Pictet is just now in Paris, in his magisterial capacity. I will let you know his answer as soon as I receive it.

It is a very curious feature in the intelligence of bees, or rather of the hand which guides them, this precaution which they take of narrowing the entrances of their hives when they are threatened by the invasion of an enemy. The fact was already known in the days of Aristotle. I have only read about it in his book on animals since I have observed it in nature; he says it is with propolis that they narrow their entrances, but without any details as to the way they set about it, or of the form they give to this strange work.

Etenim, cum sint ampliores aditus, fabrica obstruentes, coarctant.

I have seen some strange variations in these constructions; they are well worth studying, for it is the finger of God that is seen there. It is as interesting as useful to follow all His divine traces. You appreciate it so much, Sir, that I do not hesitate to ask you to join me in an investigation which ought to be fathomed, and which, by your knowledge and talents, can be elucidated.

I have seen some of their narrowed entrances, which are real works of fortification: they show battlements, covered ways, secret doors, whose openings are masked, &c. Sometimes the wall of propolis and of old wax is only pierced by one

inclined and winding opening, the access to which might be easily guarded by one or two workers. When propolis fails them, this singular wall is made of pure wax, and they know how to introduce propolis afterwards.

This year my bees had narrowed their entrances at the beginning of July; evidently this precaution was taken against the robbers of a neighbouring hive. They had only left two little openings, for two workers at most to pass through. In August, at the time that the population was large, and during the principal honey harvest, they enlarged the openings during our presence to make the passages more open; but in order that the openings should not be too large, they left a wide column, about a third of the width of the entrance, which divided it in two, and prevented the big sphinx fron entering. Would one give the honour to blind chance for such a disposition, the useful object of which is so evident?

Do me the pleasure, Sir, of looking at your own hives as well as those of your neighbours, and make a sketch of what you observe in full hives. It will not be easy to see this work in all its details; it would be easier in winter, when the bees are quieter. It would also be still easier if there were a few hives whose bees had died, and where the entrances might have been narrowed.

Allow me to ask you for some particulars about the hives of the 'Hautes Alpes,' the construction of which you so approve of.

I share your opinion on the disposition of bees during the bad season.

Time only allows me to express my perfect consideration for you.—F. HUBER.—*Au Bouchet, near Geneva, November 19th*, 1804.

P.S.—I have also ascertained this year that potatoes do not attract bees, and that the gathering of propolis is subject to great variations. This year it was very late, and not at all abundant.

FOURTH LETTER.

I do not know, Sir, if you receive the *Bibliotheque Britannique*, but if you do you will see in it that I made use of the instructive and interesting note that you were good enough to send me; only your name is wanting, and I cannot imagine why the editors have abridged it. It would also have been better if it could have appeared with my memoir; but M. Maurice carried it off to Paris, and in consequence of this it could only be inserted in the following number. They have also forgotten to engrave the drawing I sent of the entrance casemated by the bees, which my son did with sufficient accuracy to give an idea of this feature of their industry. Descriptions without illustrations never produce the same effect.

I read your notes and my second letter to the Society of Naturalists when my turn came. Perhaps you know that this Society is only composed of Messrs. de Luc, Jurine, Tolot, Gos, my sons, and myself. The Society only occupies itself with natural history, and we have numerous correspondents and foreign members. If you like, Sir, you could become a member. The proposition that M. Jurine and I made there was well received, and I undertook to communicate to you the wish of our Society, and to be the interpreter of its sentiments. M. Jurine also asked me to tell you that he would have the honour of proposing you to the Philosophical and Natural History Society.

As I was not at the last meeting, I do not know whether he did so. But in this case he will have written to you.

I very rarely see our dear Count de Flumet; he is frequently away, and much sought after.

I gave him his cousin's message, and whenever we have met the Château de Loche and its inmates have been the subject of conversation. I do not give up the hope of knowing them better some day; what is quite certain is that I look forward to it, and value the correspondence, of which the advantage is all on my side.

Accept, Sir, my best wishes in all that interests you, and the assurance of my highest consideration.—F. HUBER.—*Geneva, January 29th*, 1805.

P.S.—My eldest son presents his compliments to you.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements.)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ABOUT SWARMS.

[895.] The more one thinks about natural swarms, the more difficult does it seem to account for them by any one hard-and-fast rule. Many people think bees are endowed with the power of reasoning, and that because two and two make four, four and four must make eight; that because the population of the hive is rapidly increasing, it is likely to still further increase, until there will be absolutely no room for the new-comers, and, therefore, bees must be sent out as scouts, which shall return to report progress—all this to be followed up by an exodus of most of the oldest inhabitants.

We ought at first to define what we mean by *a swarm* and what we mean by *reason*. I take it that a swarm is made by any body of bees leaving a hive *en masse*, disgusted with the old home (whether they return to it or not doesn't matter; they have no intentions in the matter).

They will stop with the queen (attracted by her scent), and insanely perish, or, if she fly away again, after the usual clustering, will accompany her, until they crowd her and themselves into any hole they light upon which offers darkness as a security against daylight. A swarm may leave a hive for various causes—lack of food, overcrowding, or a too plentiful supply of queens. Reason, it seems to me, may be defined as a process of logical deduction, a sort of mathematical sequence—that as A is to B, so is B to C. It is also a kind of mental argument by analogy —that if A+B=C, B+C will=D. I have long thought that what we term reason is the result of an argument in the mind, and is more a product of education and civilisation than an inborn gift. The lower we look in the scale of human civilisation and education, the less use do we find of reason, the greater do we find the use of inborn instinct. The higher we look amongst men, the more do we find reason as the chief guide, until instinctive action (by comparison with the savage) almost disappears. So much is this so, that men try to unravel, by the aid of rational argument, every problem that shows itself; thus, by the right exercise of this artificially cultivated acquirement, science (knowledge) is advanced.

Believing, then, that the use of reason is the result of teaching and learning, by personal experience and by observing or learning the experience of others, I will deny the possession of the reasoning faculty in the bee, not only in the matter of swarming, but in all the working of the hive, feeling sure that we may in time rationally find out causes for what we have been taught to consider wonderful mysteries. Every bee-keeper knows that a very slight use of reasoning power, if the bee possessed it, would be of immense service to it. For instance, the bee-keeper would not have to go twice into the same bee-garden to take honey or examine a hive unless he went armour-clad. The slightest use of reason would save the lives of individual bees under many circumstances. In swarming they would not leave the hive without the queen, and would hesitate to rush out as casts, and would, besides, return to the old home sooner than perish. Again, how is it that having once got what is called the 'swarming fever,' bees will persist in coming off? (I am supposing them under natural conditions.) If, as we are told, plenty of room in advance of requirements prevents that overcrowding which is the first cause of swarming, how is it we are brought face to face with the fact of swarms issuing from natural and artificial homes of almost unlimited space? Surely it must be that at a suitable part of the summer, workers are moved by an unreasoning impulse (instinct) to build queen-cells and attend to their contents, that the presence in the hive of young queens in the cells causes great agitation, increasing as the time approaches for their hatching out, until, the climax being reached, in the heat of the day the agitation becomes terror: this leads to gorging, and adding to the trouble, no relief is possible without a veritable *stampede* into the open. The rush having been started soon becomes general, and the air is filled with bees. A *stampede* amongst animals is not unlike the issuing of a swarm: once let it be started, and off they all go—all who are capable; the young remaining unaffected by the surrounding alarm. If the bee were able to use reason at all about her swarming, she would use it when (under artificial conditions) the bee-keeper provided more room both for brood and honey. The action of bees in first and second casts drives one still further from the idea of their being possessed of reasoning power. Yet they do so many wonderful things that we must credit them with the gift of instinct in such a large degree that they are well compensated by the substitution. When we read of other animals acting with so much sense, we are driven to the conclusion that the dividing line between instinct and reason is so fine as to be almost imperceptible to the mind, and that the nomenclature is purely our own. We cannot help, too, observing again, that the one is the result of education in a great measure, and grows at the expense of the other.—R. A. H. GRIMSHAW.

NOTES BY THE WAY.

[896.] '"Wring" out the old (wet) year, ring in the new.' May 1892 prove a seasonable year for our craft, and bee-keepers rejoice in a good harvest of honey during the coming summer. After several poor seasons our faith in the return of a succession of good seasons is as firm as ever. It is encouraging to find the circulation of our *Journal* extending and increasing year after year: this evidence of growth is satisfactory and gratifying to those who have watched its career through these nearly twenty years. The volume following this will complete its majority; in the meantime I trust we shall get some rousing, relevant, and concise articles from our older hands, those who laid the foundation of its present prosperity. Surely these have not forgotten their first love, nor how anxiously we looked forward to our *B. B. J.* once a month, so that we might as scholars revel in the doings of the masters in the craft. Remembering all this, I say, 'O my masters,' allow us the privilege of sitting at your feet again as of yore.

To those few who read these 'stray notes' I would like to say a word of encouragement to induce them also to write their experiences, so that we all may compare notes, and thus help and encourage our less experienced brethren. The honey industry is more dependent on the weather than any of the minor industries, or possibly the larger and more important one of farming, therefore our reports must fluctuate acccording to the seasons—some will be good, some poor, and some bad; but, by jotting down our notes and recording them for reference in the columns of *B. B. J.* or *Record*, we may b erecting safeguards to enable others, another

season, to steer clear of failure and loss by the knowledge acquired from our practical experience.

It is rather unusual to see bees at the watering-troughs on New Year's Day, but such was the case in our home apiary, and also again to-day; must I take it as an evidence that breeding has commenced, or were the water-bearers after a fluid wherewith to moisten some extra dry candy? Either one or the other must have induced the visits to the tea-leaves.

Don't neglect those leaky roofs if you care for the well-being of the bees; if paint and putty will not make a sound job, try a piece of unbleached calico. First give a good coat of paint to the boards forming the roof; then cut the calico large enough to cover and turn under the eaves, secure the edges with tacks to the underside of the eaves of the roof, then give a good saturating coat of paint on the calico, and with proper ventilation your roof will be dry; or, better still, remove the old, cracked, and leaky boards, and replace with new, sound pine boards, as free as possible from knots, drive nails well in, then give a good coat of boiled oil, and when it is dry putty the nail-holes, and give two coats of stone-colour paint, and you will not be troubled with wet cushions for several years to come.

Wet cushions and wraps should be removed, and dry ones given instead. This may be done with very little disturbance to the bees, and is essential to their health and well-doing.

Our Berks B. K. Association Annual Meeting is to be held on Wednesday, the 13th inst. *On dit*, that our energetic Assistant Hon. Sec., Miss Carr-Smith, has wiped off the rather heavy deficit of last year. That we start the new year free from debt. That the Annual General Meeting will be held in the Abbey Hall, Reading. That Professor Cheshire will give a lecture on bees, honey, and flowers at 7.30 p.m., admission free. Now, if I could only stenograph like Mr. Read, your readers should have a verbatim report of Mr. Cheshire's lecture; but, as I can only jot from memory, I trust our editor will do us the honour of coming down to report and take notes. Bee-keepers generally will receive a hearty welcome, and as Reading is centrally placed, with good railway communication, I hope to see a crowded audience.—W. Woodley, *World's End, Newbury.*

SEASONABLE.

[897.] Christmas greetings heartily reciprocated. This time I received *B.B.J.* on Christmas morning, just before starting to spend the day at a friend's house. I hope one and all have had a happy time, and here I take leave to express my gratification at the continued interest I find in the perusal of your *Journal.*

I fed my seven stocks of bees in the beginning of October on syrup made from seventy-five pounds of sugar, using the feeder (a description of which you honoured me by publishing on pp. 515-16), previously packing all with several thicknesses of quilts and of brown paper, and filling the air space all round with cork-dust, paper, or cocoanut matting. And to further satisfy myself as to their store of provisions for the winter, I gave each a two-pound cake of soft candy in the tins, on November 25th, as well.

The weather has been exceedingly boisterous and trying in this exposed situation. On the 11th December my bee-house was lifted on the sill, and one or two empty hives upset. Fearing other damage, more weight was placed on each hive, and the house secured to stakes by stout wire, &c. But the wind was on and off, and on the 13th inst. it was most furious. Ridge tiles and slates (one slate carried over 200 feet) were blown off, and between seven and eight a.m. three empty hives and one stock were turned over. Luckily, I saw the disaster early, and, though Sunday morning, I hastened to put the hive in an upright position, arrange the frames, and temporarily cover all up, while removing wet wraps and feeder to dry at the fire, and, as soon as the storm abated, I returned to the hive, and wrapped up with warm coverings, taking care to increase the weight on all the hives. No further injury has occurred. Sunday, the 27th, was a charming day, my thermometer reaching 57° at 11 a.m., when I seized the opportunity to unload and look into the hives, and (first pushing the slide home) into the feeders also. I found each cake had been tasted, and candy firm—not hard, but soft enough to thrust my finger in easily. By this I conclude the bees are not in want of food. Under this arrangement my bees were not in the least disturbed, and the loss of heat was imperceptible. A large number were on the wing, and the dead brought out.

One of your correspondents expressed a desire for Christmas cards of beehives covered with snow. A friend, knowing my hobby, has sent me such a one.

I should say that, for fear of robbing, I took all the honey from one stock in skep when transferring, partially from five, and none from two. Both syrup and candy were medicated according to instructions, with the exception that, instead of dissolving Naphthol Beta in pure alcohol, I did it in brandy. Wishing you a prosperous New Year—J. Quartermain, *Tenby, December 28th.*

QUEEN-EXCLUDERS FOR SURPLUS CHAMBERS.

[898.] I was pleased with the remarks of 'J. G. K.' (880, p. 573) on the size of queen-excluders for surplus chambers. He touches on an important point when he says queen-excluders over the whole of the frames must cause draught from the entrance through the brood nest, where the heat is most wanted, as it undoubtedly escapes upwards. I am afraid the system followed by us modern bee-keepers in supering is a great mistake; the hive is uncovered, smoke, in many instances, is used to drive back the bees,

the supers are put on, and the once cosy brood nest loses much of its needed warmth. The result is that more bees have to stay in the hive to look after the brood, and consequently we have fewer bees in the fields; thus our harvest is lessened. How are we to prevent this? Why, by simply filling the spaces between the frames with strips of wood, something after the Stewarton principle, leaving a half-inch space on either side of the hive to admit bees to the supers. This prevents the honey-gatherers from passing through the brood nest; they travel up the sides of the hive, and so reach the supers without coming in contact with the brood nest at all. I take very unkindly to queen-excluders; it must hamper the workers returning from the fields loaded with stores. I rarely find any brood in my sections, and, if hives are up to supering strength, the hive crowded with bees ready to enter as soon as section racks are put on, the queen will trouble them very little. At least, I think so myself. But I will try with and without excluders this year, and so compare results.—A Howdenshire Bee-keeper, *East Yorks.*

SELLING HONEY.

[899.] Though a constant reader of the *B.B.J.*, I do not often trespass on your valuable time or space. May I, therefore, claim your indulgence for a little, whilst I relate my first experience in soliciting an order for honey. I would not trouble much with my small grievance, but I have a particular objection to be 'taken in.'

Here are facts to which I ask your attention:—I replied to a recent advertisement in the *B.B.J.*, informing the advertiser that I could supply him with the amount of extracted honey required, stating the quality of my honey, the form put up in, and the price. In reply, I was asked to send a specimen of my extracted honey, and also inform the writer if I had any comb honey to spare. I replied by sending a one-pound bottle of extracted honey, having nothing smaller, and sent a note with it, stating the quantity of comb honey I could supply, and the price. I also asked for an early reply. This was on the 17th, and I waited till the 23rd, when, receiving no answer, I wrote, expressing my disappointment, and asking (if my honey did not meet with the approval of the advertiser, and it did not suit him to give me an order) if he would be good enough to pay me the wholesale price of the one pound of honey sent, and one penny for letter. My bottles (tie-over) hold from sixteen up to eighteen ounces, so I think I have not asked too much. Now, I believe that I was justified in expecting an answer, especially as I informed my correspondent that I held over a grocer's order pending his reply, and I believe there are few who would hesitate to comply with my small request, seeing that I only asked payment for value received, taking no account of trouble and postage on parcel, which cost me sixpence, but, up to the present, I have had no reply. The question, therefore, I would like to ask is: Has the advertiser in this case acted within his rights? Are vendors expected to give their time, their money, and their goods, be they ever so small, without any compensation? In this case the inconvenience from want of common civility has been considerable, and I shall be grateful for any word of guidance for the future.—R. Auld, *Bath, January 2nd.*

[Judging from the facts as stated, there is, no doubt, a want of courtesy on the part of the advertiser referred to in not replying to letters, but we should like to have a word of explanation from him before offering any advice beyond a recommendation to send not more than a couple of ounces of honey as samples, and on no account to expect payment for them.—Eds.]

CLIPPING QUEENS' WINGS: SELF-HIVERS.

[900.] Could you give a paragraph in the *Journal* upon the subject of clipping queens' wings, with the object of preventing the loss of swarms? I ask this because I am a sufferer from this cause, and have lost several swarms last season, and am rather surprised that the article at page 332, July 23rd, 1891, has not received more attention from bee-keepers in the *Journal* than it has. Would not the present be the best time of the year for clipping the wings? I may mention that I keep my bees a mile away, and I have no facilities for watching them in swarming-time.—Expert, *Blackheath Hill.*

[The custom of mutilating queens by partially destroying their wings is a cruel practice, and one we do not care to advocate, because, though the removal of the wing of a bee may appear to us a painless operation, to the insect it is not so; in fact, it is only a short remove from cutting off their legs to prevent walking. Under the circumstances in which you are placed we would far rather try the 'self-hiver.' In an early number we shall be giving an illustration of a new and improved form of this contrivance, which seems likely to answer the intended purpose well.—Eds.]

Echoes from the Hives.

Alsace, December 16th, 1891.—The temperature at the present time here is very mild, 8° to 10° C. during the middle of the day, so that the bees can fly nearly every day. I am wintering thirty hives, which are all up to the present time in very good condition. My honey harvest has not been very rich this year: six hundredweight instead of twelve and three-quarter hundredweight in 1890.—J. Dennler.

Witney, Oxon, January 3rd, 1892.—Bees have done fairly well here; my 'take' for 1891 was 393 pounds—viz., 130 sections and 263 pounds extracted honey from ten hives. Skeppists have not done much.—C. B. Bartlett.

Queries and Replies.

[471.] *Raising Hives from Floor-boards for Ventilation.*—The entrances to my hives are cut in the body-box, and a plinth runs round the two sides and back with movable floor-board, to give them plenty of ventilation in the summer, and so help to prevent swarming. Could I place two sticks across the hive on the floor-board, thus raising the hive up so that there would be an entrance all round? Would this plan answer? I should like to prevent them swarming if possible.—JOHN SMITH, *Oxon.*

REPLY.—It is a common and an excellent plan of giving ventilation in very hot weather, to raise hive bodies from the floor-board, so that bees can pass out on all sides.

[472.] *Foreign Bee Journals.*—I hope I am not trespassing too much in asking you for the names of the French, German, and American journals most likely to be of service to me; also, where I am likely to obtain them.—C. B. BARTLETT, *Oxon.*

REPLY.—French:—*Revue Internationale*, edited by E. Bertrand, Nyon, Switzerland; *L'Apiculteur*, published by the Société Centrale d'Apiculture, 167 Rue Lecourbe, Paris. German:—*Bienenzeitung*, edited by W. Vogel, Nördlingen; *Illustrierte Bienenzeitung*, edited by C. J. H. Gravenhorst, published by Schwetschke & Sons, Brunswick. Others will be found on page 589 *B.B.J.* American:—*American Bee Journal*, T. G. Newman & Sons, 199 Randolph Street, Chicago, U.S.A.; *Gleanings*, edited by A. I. Root, Medina, Ohio, U.S.A. This can be had of Mr. J. Huckle, Kings Langley, Herts.

KENT BEE-KEEPERS' ASSOCIATION.

The Annual Meeting of the above Association will be held on Wednesday, the 13th inst., at 105 Jermyn Street, at 4 o'clock p.m.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

December, 1891.

Rainfall ..	..	4·15 in.	Sunshine, 87 hours.
Heaviest fall ..		·81 ,, (on 1st)	Brightest day (19th) 6·50 hrs.
Rain fell on	..	24 days.	Sunless days, 9.
Average ..	..	2·21 in.	
Max. temp.	53° on 4th.		Mean max. .. 41·6°
Min. temp.	22° on 25th.		Mean min. .. 34·5°
Min. on grass,	18° on 25th.		Mean tem. .. 39·6°
Frosty nights, 13.			L. B. BIRKITT.

BUCKNALL, LINCOLNSHIRE. BM. 25.

December, 1891.

Maximum, 56° on 3rd.	Minimum on grass, 7° on 21st.
Minimum, 9° on 21st.	
Mean max. .... 42·2°	Rain, 2·93 ins.
,, min. .... 29·4°	Average in 24 hrs. ·44 on 1st.
,, temp. .... 35·8°	
,, of 6 years.. 33·4°	Rainy days, 16.

A mild month, with spell of sharp weather from 17th to 25th. Bees flying on 26th and 27th.—J. BINT.

WEATHER REPORT FOR THE YEAR 1891.

WESTBOURNE, SUSSEX.

Rainfall ..	.. 35·94 in.	Sunshine, 1682 hrs.	
Heaviest fall ..	2·04 ,, (on August 21st)	Brightest day (June 17th) 13·50 hrs.	
Rain fell on	..198 days.	Sunless days, 61.	
Average ..	.. 27·09 in.	Last year, 1773 hrs.	

Max. temp. 78° on May 13th.
Min. temp. 17° on January 18th.
Min. on grass, 14° on January 18th.
L. B. BIRKETT.

WEATHER REPORT FOR THE YEAR 1891.

BUCKNALL, LINCOLNSHIRE. BM. 25.

	Jan.	Feb.	March.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	
Maximum,	51°	59°	63°	66°	76°	78°	74°	74°	80°	63°	55°	56°	— 80°
Minimum,	−5°	16°	17°	19	19°	32°	36°	32°	32°	26°	21°	9°	— 5°
Mean max.	37·8°	46·3°	47·7°	52·2°	58·4°	67·6°	68·4°	66·2°	67·8°	56·5°	46·3°	42·2°	— 54·8°
,, min.,	22·4°	28·6°	30·9°	33°	37·7°	46·9°	47·3°	47·3°	45·3°	39·6°	33·9°	29·4°	— 36·9°
,, temp.,	30·1°	37·5°	39·3°	42·6°	48·1°	57·2°	57·8°	56·8°	56·5°	48°	40·1°	35·8°	— 45·8°
,, of 6 yrs.	34·5°	36·1°	38·7°	42·8°	50·1°	56·6°	58·5°	56·6°	54·3°	46·8°	40·8°	33·5°	— 45·8°
Rain (in.)	1·58	·09	1·25	1·08	2·78	2·58	2·55	3·19	1·42	3·83	2·92	2·93	—26·2 in.
Rainy days,	16	3	19	9	18	11	21	26	11	22	22	16	— 194
Remarks:—	very cold	dry, mild	cold, windy	cold N. wind	very cold	two weeks nne	dull, wet	very wet	fine, warm	mild, wet	dull, wet	variable	— dull, wet

J. BINT.

BEES UNCONSCIOUS OF THEIR ACTS.

Do Bees Prepare a Home before Swarming?

Some inquiry seems to have been awakened involving the question, 'Do bees reason?' Properly, 'Are bees intellectual beings?' Were I going to decide the question upon the *evidence*, 'Do bees reason?' I would commence at the bottom of the proposition, and reason upward to a conclusion. Those answers to the query that tend to the affirmative, begin their reasoning at the top and proceed downward. Such a method of reasoning is faulty because it assumes the thing to be true that is to be proven.

The best philosophy, most universally accepted in all the ages of the past, and which is supported by Divine revelation, teaches that the animate creation of the universe consists of two classes of beings, with a sharply cut line between them. The one class is rational, intellectual, spiritual, immortal. Man stands at the foot of the 'created intelligence,' being 'a little lower than the angels.' The other class is *animal* only—irrational. I will not insult the intelligence of the reader by asking to which of these classes the bee belongs. She is an irrational creature, and, therefore, does not 'reason.' But it is argued that bees do things that seem to be the effect of 'reasoning,' and perform some acts that look like the exercise of the faculty of memory, &c. Admit this, and yet this sort of reasoning is the merest assumption, because it assumes as true the thing to be proven.

The question does not rest upon the *acts* the bees perform, however wonderful they may be. Do they perform their part in the economy of life *consciously*, as rational beings? When this is proven affirmatively, it will be time enough to assert that 'bees reason.' Until the proof is forthcoming, those of us who are less credulous will be content with the belief that bees, like other irrational animals, perform their acts in the economy of life *unconsciously*, under the directions of the promptings of instinct, which is the 'property of animal life.'

I might safely let the subject drop here, but as it is an interesting one to me, I propose to suggest a few ideas that may interest some, and be of benefit to all who care to study the instincts and habits of bees.

The notion that bees 'send out scouts' from the clustered swarm is an ancient story. It dates back to where the 'memory of man runneth not.' It is as old as that other story that bees look after the coffin that saddened the household—especially if there was the smell of varnish about the coffin. It is a good story calculated to excite the wonder of lovers of the 'curious,' and no set of people is more fond of the curious than bee-people.

I once thought it was true, and when I was investigating its claims I was very slow and shaky to give up my faith in the 'bee scouts,' after the fashion of Moses and Joshua, with the historical Rahab left out. If our romantic fathers had held on to the Rahab episode, it would have 'shaken' me all over to give it up.

But one thing that I observed made it more easy to me. When experimenting I noticed how unreasonable these 'reasoning' bees were. As soon as the cluster was formed, a 'counsel was held,' and 'scouts' were 'sent out' in all directions, and as soon as one of them returned and reported that a home was discovered and pre-empted (no title papers), the swarm, without further ado, would 'light out' to the pre-emption, leaving the other faithful scouts to mourn the perfidy of the commonwealth. It seemed to me that this was as mean a trick as any 'reasoning' beings could be guilty of. Many times nations of people have declared war because of acts of less treachery than these.

In fact, and free from all romance, I discovered that when a swarm is about to issue, the whole of the colony is not 'struck' with the swarming impulse alike and at once. This is a wise provision of nature to guard against the entire desertion of the brood. This is shown by the fact that some individual bees are taken by surprise and hurry off with the swarm while loaded with pollen. Others seem to go without the promptings of the swarm impulse, and true to habit, not broken by the swarm impulse, these individual bees leave the cluster to pursue their daily work, some to the watering-places, and others to the fields.

It is this class of bees, and others that get lost from the swarm, that visit the place where the swarm settled. Such bees always return to the hive where the swarm came from. These observations, with the fact that not one swarm out of a half-dozen goes straight to their future home, settles the 'scout' romance.

I have seen a great many swarms find their way into hollow trees and empty hives, but have never seen a single case where they entered the place deliberately. On one occasion I had been watching a large colony that looked like swarming for several days, and was near the hive when they came out. They raised high in the air, and I was sure of losing them, but as the swarm passed over a large apple-tree that had a dead hollow limb near its top, the lower part of the swarm paused, as though something attracted their attention, and speedily began to enter the hole in the dead limb. The main part of the swarm, higher up in the air, seemed to hear the 'call,' and swung around in a circle and joined the general rush for the 'new home.'

It was as clear a case of finding a 'home' by the echo responsive to the multitude of vibrating wings, as the most incredulous would demand. When I drove these bees out of their 'new home,' I found the cavity in the limb too small by half to accommodate a colony of bees.

On another occasion I was doing some work in the woods, and a swarm of bees passed over the tops of the trees, and I followed them, and as they passed near the top of a tall poplar the very manœuvring I have described above occurred, and the swarm entered a hole high up in a limb of the tree. I told the owner of the

land on which the tree stood of the find, and he cut the tree some time afterwards, but got no honey of consequence. The hollow in the limb was entirely too small to accommodate the swarm.

I can only speak of two more cases now, and they occurred at my apiary. A swarm issued on a windy day, and was struggling against a strong wind in their effort to cluster on a small hackberry-tree that stands about two rods from the south-west corner of my apiary. They nearly reached it several times, but were as often driven back by strong gusts of wind. I was standing by, deeply interested in the struggle.

There was an empty hive in the corner of the apiary, and as the swarm was driven back by the wind, they swung down in front of the empty hive, when some of the bees made a change in their course and entered the hive, while the greater part of the swarm took advantage of a lull in the wind-storm and reached the tree. The 'call' rang out from the hive, and from the tree, and the result seemed doubtful. But the hive furnished the best 'sounding-board,' and the bees gradually left the tree and joined their comrades in the hive.

I can give but one more case among many. Last summer, in swarming-time, a swarm of bees passing over my apiary on a bee-line, apparently making their way toward a woodland pasture a mile ahead, paused over the apiary as they caught the sound from below, and swung down and clustered on a hive cover, and finally entered the hive. In my rather long experience as a bee-keeper, I have never known a swarm to pass near my apiary that was not attracted by the sound from it. I capture from one to three swarms every season in this way.

That other story about bees selecting and 'cleaning out' a 'home' in advance of 'moving to it,' has not been as popular as the 'scout' story, because the one contradicts the other.

If bees select a home and 'clean it out,' and 'glue it up,' preparatory to taking possession of it, there is no use of sending out 'scouts' from the clustered swarm to hunt a home that has already been discovered, and made ready for occupancy.

The fact is, a little knowledge of the habits of bees ought to teach any observing person that bees visit 'decoy hives,' and other hives that have been occupied by bees, to carry away the bits of wax and propolis they contain, and that they are often seen gathering the liberated albumen and glucose substance produced by chemical changes in the decay of wood in and out of hollow trees.

Let this suffice. Concluding this article, as I do not care to discuss the subject further hereafter, I wish to lay down these propositions.

It is utterly impossible to prove or disprove that beee send out scouts. No man has ever 'shadowed' a bee scout with a full knowledge of her identity, from the time she leaves the hive or swarm cluster, in all her meanders, until she returns to the hive or swarm from whence she was sent out, Such a feat would be a physical impossibility, out of the range of human power, yet nothing less would suffice to prove that bees send out scouts.

A question like this cannot be taken on 'faith.' It is a question susceptible of proof, or no question at all. Let us have the proof or nothing.—G. W. DEMAREE, *in 'American Bee Journal.'*

[Without desiring to discount Mr. Demaree's deductions on the question of preconcerted action of swarms as given in the interesting article quoted above, it will occur to most bee-keepers of experience that there is strong presumptive evidence that bees possess the instinctive foresight to provide a home beforehand when about to swarm, in the fact that 'scouts,' or whatever we may call them, are so frequently seen 'rummaging' over and cleaning up unoccupied hives, left about an apiary at swarming-time, and that when this happens, a swarm, if left to itself, will usually take possession in a day or two.—EDS.]

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

HENRY STUART (Winchester).—*American-made Smokers.*—The price of smokers in America is higher than here, but as good an article as need be desired can be had for the price you name (5*s.*); personally, we would not use these large, heavy smokers, they are too cumbersome. Why not try the new 'Hill' Smoker? You will have no difficulty in keeping it alight.

E. STELLINGWERFF (Belgium).—*Foundation Making.*—1. No; the comb foundation made by the Rietsche or other amateur presses is not as good as that sold by dealers, and is a very poor substitute for it. 2. The Guazzoni, is the best of these amateur presses for small sheets, but we do not know if it is in the market. The Rietsche press seems to be the one mostly in use now, but we have not seen any sheets of foundation made on this press that we should care to use.

A MIDDLESEX BEE-KEEPER.—1. The hive referred to is a good one for the purpose. 2. One shallow body above brood nest will not prevent swarming. 3. You will find our preference for shallow surplus chamber fo extracting purposes freely expressed in both weekly and monthly issues.

F. W. S.—We believe that the stock of medals has run out, and that a new supply is expected daily. No doubt this accounts for the delay.

*** We beg to thank the many correspondents who have written expressing their good wishes for the coming year, and assure them their kindly feeling is very cordially reciprocated.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 499. Vol. XX. N.S. 107.] JANUARY 14, 1892. [*Published Weekly.*

Editorial, Notices, &c.

METHOD IN BEE-KEEPING.

The beginning of a new year brings with it, in the minds of most men, some kind of resolve to make a change for the better in their plan of action, or, perhaps we ought to say, in their method of doing things. They have the past year's experience to guide them, and there follows a very natural desire to avoid a recurrence of mistakes as well as to make the most of past successes. Bee-keepers, no doubt, among the rest, are more or less in this condition of mind regarding that portion of the coming year's labours with which we are especially concerned, viz., the work among the bees. We therefore take the first opportunity of impressing upon readers who are beginning to consider their plans for 1892, the absolute necessity for proceeding according to some well-arranged method.

There are few pursuits in which forethought is of more importance than in that of modern bee-keeping; in fact, it is the very keynote of success. Moreover, the exercise of an enlightened intelligence, the outcome of study as well as of practical experience, is, in our view, one of the greatest charms about the business. To have his own carefully thought-out plans succeed and accomplish all he expected of them gives intense satisfaction to the bee-student, and yields an amount of pleasure which far more than repays him for what it has cost. But, while remembering all this, we have no desire to confine our observations altogether to the sentimental side of the question. There is in most things a stern necessity impelling us to bear in mind the fact that the main object of all labour is to secure some tangible result, which in one form or another constitutes its reward. The half-witted fellow who 'didn't believe in doin' nothin' for nothin' for nobody' had his reasons for thus delivering himself, and we take it that the vast majority of those who in this country keep bees even for pleasure retain a pardonable weakness for the *profit* side of the account. This is exactly as it should be, and we trust none will quarrel with the principle involved; nevertheless, the British bee-keeper, in nineteen cases out of twenty, views his bee-garden from an altogether different standpoint to that of a man who follows bee-keeping—like so many do in other countries—as his sole occupation, for we know that a man who lives entirely by honey-production goes about his work with the ever-present and anxious feeling that a good or a bad honey season means, to him, comparative plenty or otherwise. To the one, almost the very home comforts may depend upon the bees; with the other, they are a pleasure-giving hobby, which he desires to make profitable, of course, but not a matter of serious consequence at all.

It is well for all who love bees as some of us do that this is so, because, however earnestly we may hope for the permanent success of British bee-keeping as now followed, there is no resisting the conclusion that the climate of this country is too uncertain, and the season too brief, for the indulgence of any hope of its ever rising beyond the position of a minor industry. In acknowledging this much we rather see cause for congratulation than otherwise. As a minor industry we claim for it a foremost place; but our country is too thickly populated to allow of the establishment of large apiaries in any great number, and so we gather comfort for readers and for ourselves in being perforce compelled to remain bee-keepers in a comparatively small way, in that it relieves us of any very serious forebodings for the coming season, while allowing us the use of every effort to make it as successful as we can, and our present object in writing is to give a little advice respecting the best method of securing this desirable result.

CHEAPENING HONEY PRODUCTION.—One

of the main objects to bear in mind is to use every means of cheapening the cost of production, by which is meant the outlay of as little capital as may be without doing anything tending to lessen the amount of honey gathered. With less uncertainty about our honey season, less caution would be needed in preparing for it, and our advice would be not to follow any cheese-paring method. But, when we reflect how the chances run that free dealing with, and a too liberal use of, articles which cost money may end in very little return, it behoves us to frame our plans with caution, and to be guided by circumstances in our method of carrying them out. Suppose we take two items of bee-management on which opinions differ: (1) stimulating bees by feeding in spring, and (2) the prodigal use of comb foundation in frames and sections. One bee-keeper feeds in spring for the purpose of 'stimulating,' whether the bees require food or not. He also fits all his sections with full sheets of foundation—costing about 3*s.* per 100 sections—and fills the frames of hives prepared for swarms with ditto, at an outlay of 2*s.* 6*d.* to 3*s.* per hive. This, of course, dips heavily into the money-bag. Well, another bee-keeper takes an entirely opposite view, contending that a single sheet of foundation, costing about 4*d.*, is quite sufficient, when cut into 'starters,' to give to any swarm. He also argues that starters, at a cost of about 9*d.* per 100 sections, are as rapidly built out into comb as are full sheets of foundation. Continuing his economies, he does no stimulating—leastways, none that involves food-giving.

Seeing, then, that men of equally wide experience in all parts of the world, as well as among ourselves, entertain such divergent views, the question arises, Which is the best all-round plan to follow? From the cheapening-of-production point, the saving method would seem most likely to tend that way; but we incline to the opinion that our bee-keepers will, as they become more thoroughly conversant with the science of bee-keeping, follow no rule of thumb, but will govern their action by the circumstances of the time and season, as well as of each case to be dealt with. For instance, bee-keepers located in early fruit districts will stimulate their bees, as we do ours, in spring, because it pays to do so. We want to see our stocks strong in numbers a full month earlier than is needed in places where the first source of supply is the white clover. In the latter case mid-June is about the date for surplus-gathering, and there should be little need for spending money on stimulating to have the bees ready for work at that date.

The second point to which careful attention should be given, is economy in the use of foundation. By this we mean avoiding its use in a too liberal way when no equivalent return for its cost can be looked for. It is a very easy matter for a bee-keeper to expend a couple of pounds, or more, on foundation in a season, and find himself very little further forward than if he had kept the money in his pocket. But, in saying this much, we quite believe that judicious use—liberal use at the proper time—of foundation is as good a bee-investment as can be made; and the point to consider is when to use it freely and when 'not to.' If a swarm comes off a week or so before the pasturage is ready for bees working on it, it will pay well to use full sheets, and feed to the extent of a few pounds of syrup as well, if by doing so we can have the hive full of combs, and the combs full of eggs and brood, by the time honey comes in freely. In this way we compel the bees to store the income in surplus boxes, because there are no empty cells in the brood chamber. If, on the other hand, a swarm issues at the tail-end of the harvest, we would give the bees frames furnished with starters only, and save our full sheets. By following the latter course, the bees will work all the harder during what remains of the season, and the bee-keeper, expecting no more than that the bees may be able to provide for themselves, does well to let them do all they can in this direction, only helping them in case of actual scarcity of food for winter.

Editors who are themselves bee-keepers have, of course, *methods*, as well as individuality, of their own, which they follow and recommend as the best; but there is no reason why *our* preferences should be those of all. It is quite open to the humblest cottage bee-keeper to find out 'dodges' of his own which may beat our best results. We only desire to impress on all the need for working according to some well-defined method, in which is contained all the good which the experience of years furnishes, and if our readers will adopt a course midway between the two extremes to which reference has been made, they will have no cause for dissatisfaction with the result of their labours in an ordinary season.

BRITISH BEE-KEEPERS' ASSOCIATION.

Nominations of members for election on the Committee for the year 1892 must be made not later than Saturday, January 30th. Each candidate must be nominated by two members of the Association. Forms for such nominations may be obtained upon application to the Secretary, John Huckle, Kings Langley, Herts.

The annual general meeting of the members of the Association will be held on Wednesday, February 17th, at 105 Jermyn Street. Notices of motions for this meeting must be made not later than January 30th.

Subscriptions for 1892 became due on Jan. 1st.

HUBER'S LETTERS.

Fifth Letter.

Sir,—I have communicated the contents of your letters to the members of our little society. They learnt with much pleasure that you consented to become one of us, and requested me to tell you so.

M. Jurine, to whom I gave your letter to remind him of what you were expecting of him, told me he had not yet proposed you to our Philosophical and Natural History Society, but was going to do so at the next meeting; it will be held at my house on the 28th of this month, and, as I shall preside, you may be sure that the proposition will be brought forward, and that you will have my vote.

I do not doubt, Sir, but that all the communications you are willing to make to the editors of the *Bibliothèque Britannique* will be received with the readiness that they deserve. I shall be particularly pleased to know your observations on the formidable *Atropos*, the cause of its cry, its tongue, &c.; your drawing will make these remarks still more interesting: perhaps it would not be impossible to have it engraved here.

Have you never tried etching yourself? My father succeeded in this art, as in everything else that he applied himself to; however, although he took so much care, we were always rather afraid of the effect the aquafortis used in the process might have upon him.

M. Jurine read to us the other day his paper on the wings of flies, and showed us the beautiful drawings done by his daughter. This paper and these drawings will remain in his bureau, because of the impossibility of engraving the beautiful plates.

One of my acquaintances has had this year eleven hives devastated by the *Atropos;* if all the hives are not to be lost next summer, they must be absolutely protected against this formidable enemy by some means analogous to what I have indicated. In their native country the bees, no doubt, know how to resist these invasions better than they can do where they have been transplanted, and where they have not all their former instinct or their energy.

Proust wrote to *La Métairie* (*Journal de Physique de Ferme*, 13), dated 19th November, 'There are two sorts of honey, one generally liquid, the other dry, deliquescent, crystallisable in its own way, and not so sweet as sugar. They can be separated with spirits of wine; for this it is necessary to operate on granulated honey.' It is a pity that there are not more details. If Proust were not in Spain—that is to say, at the end of the world—I should have asked him for these.

As far as I can remember, the ancients distinguished three sorts of honey. I will look for this in Pliny. Because their writings are not read, often something is said to be new which was universally known in the days of Aristotle.

I recently saw Count de Flumet, who is always amiable, happy, and well. It is because he has known how to resign himself; here he is as much loved as admired for his moderation and courage. This is a good gift of Providence, and it will not be the last.

I thank you, Sir, for all your good wishes for the work of my son on humble bees.* You would have received it long ago, if it had been in our possession. Here there is only one copy, in an English collection which belongs to the Public Library. Those that have been printed in London have not yet reached us.

Last Thursday, he read at a public meeting of the Philosophical and Natural History Society, a short memoir on the relations between ants and aphides. Everybody seems satisfied. I hope the encouragement he received on this occasion will confirm his taste for the study of natural history. They asked me for this memoir for the *Journal Britannique*. He does not like to be made so public, and I am not sorry that he is modest and timid.

I have the honour to remain your devoted servant,—Huber.—*Geneva, February 19th*, 1805.

WINTER PREPARATION—AMOUNT OF STORES.

Some seem to think that bees need little or no attention during the months of September and October, believing that the month of November is early enough to prepare bees for winter. I used to think so too, but later on I took the advice of an old bee-keeper, who told me that the month of September was the proper time to prepare the bees for winter. After working on his plan for a number of years, I find that he was quite right about it, and as I am now preparing my bees for the coming winter, I thought it might not be uninteresting to the readers of the *Review* to know how I do it.

The point which seems to have the greatest bearing on successful wintering is the getting of the winter stores near and around the cluster of bees in time for them to settle down into that quiescent state so conducive to good wintering prior to November 1st. To arrange these

* 'Observations on several Species of Bees: *Transactions of the Linnean Society*, Vol. VI.

stores, and properly seal them, requires warm weather, hence all will see the fallacy of putting off caring for them till cold weather arrives. To be sure all have the desired amount of honey or stores, there is only one certain way to do, and that is to open the hives and take out each frame and weigh it, after having shaken the bees off from it. Next weigh a frame of empty comb, or several of them, so as to get the average weight, which, when deducted from the weight of those in the hive, will give the weight of the honey. If it is found that there are twenty-five pounds of honey, and the bees are to be wintered out-door, I call that colony right for winter, or from then till the bees get honey again in the spring. If I intend to feed in the spring, if necessary, then twenty pounds will do well enough. If I winter in the cellar, five pounds less stores will do. If less than these amounts are found, the colony must be fed to make up the deficiency; if more is found, then some can be spared to help another colony which may be short. In this way I go over the whole apiary, equalising and feeding, as is required, till all have the required number of pounds for each colony. But, I hear some one say, this is a fearful job to shake the bees off from every comb and weigh it. Well, so it would be if done with each colony, but you will only have to do this with one or two till you get the right conception of just how much honey there is in each frame by simply looking at it, when you count off the number of pounds almost to a certainty. I can count off combs of honey so as to rarely vary one pound on the whole hive, and yet do it as rapidly as I can handle the combs, and when the apiary is thus gone over there is a certainty about it which gives the apiarist a great advantage over any other method.

But I hear another say, 'We have more bees than we want, with a prospect of not enough honey for them to winter upon. What shall we do in such a case?' Why, unite the colonies, of course. And right here I will tell the reader of a plan of uniting which I think is boss, the uniting being done so that they can be ready early, instead of being only poorly fixed at best, when left till October, as they usually are. The plan is this: The latter part of August select out as many colonies as you wish to winter, making this selection according to those having best queens, best combs, hives you wish them in, or from any preference whatever, when you are to go to the ones you do not care to keep, and take all but a very little brood away from them, dividing this brood among those selected for winter.

In doing this, I take the bees along which adhere to the combs of brood, being sure I do not have the queen. If the queen is of no value to me she is killed, and the bees left to store fall honey, if there is any. In ten days the queen-cells on the little brood left are destroyed, and when the honey season is over the few old bees remaining are killed, when we have the combs ready to store away, after the honey is fed to the bees, should they require it. In our hives selected for winter we have plenty of bees hatching for the next twenty-one days, which bees are the ones to go over winter, and with me prove of a better age to stand the winter than those hatched either earlier or later. After practising this way of uniting for several years, I must say that I like this uniting in the brood form much better than in the bee form.

I think I hear a third saying, 'If, after uniting and economising in every way, the bees still do not have stores enough, what shall I do in such a case?' Well, if you are to be a bee-keeper in the future, feed them. If not, kill them, and eat the honey. I trust I am writing to no one who has any idea of taking the latter advice, for I believe that if you feed those bees, after they are properly thinned or pruned out as above, it would pay you to feed them enough for winter if you had to pay as high as fifteen cents a pound for sugar to do it with. Don't get discouraged; there are better times ahead; and remember the fun you have with the bees, which fun gives you good health and counts something toward the sugar.—G. M. DOOLITTLE *in the 'Bee-keepers' Review.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not and rtake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SOUTH AFRICAN BEES.

[901.] In the *Bee Journal* for October 1st, you have a paragraph on so-called Punic bees, now being made much of by some persons in America, wherein it is considered probable that they come from the north of Africa.

I am forwarding you some South African bees for examination, and will be glad to see your remarks on them. You will notice that the two queens I send are differently coloured, and that the same applies to the drones and workers—bees from the same hive are dark and light; can you explain the reason for this peculiarity?

If any one interested in bees would care to have a South African swarm, and would undertake to make the necessary arrangements for their transit, I shall be very pleased to supply two or three swarms without charge. You have my full address to give to any who may apply for it.

On the same page above referred to, 'Balling'

queens is mentioned; kindly explain the term, and how frequent manipulation would be likely to cause the trouble.

On page 455 in the number of October 8th, under the heading 'Bees for South Africa,' your Natal querist, who 'has had a little English tuition,' is inclined to despise the uncivilised African bees. The writer has several hives of these bees, and finds them very tractable and marvellously industrious. When first captured, if from a wild hive, they are very much inclined to sting, but soon become accustomed to people, and unless they have already selected quarters, are not at all difficult to get settled; but if they have been captured after selecting quarters they are most obstinate. Cutting the queen's wing, as is commonly practised here, is next to useless, as the bees fly away, and the queen, in her endeavour to follow, generally perishes. The best way is to securely cage the queen until the swarm is well settled and working steadily. But with bar-framed hives, where combs of young bees can be given to the new swarm, there is no difficulty whatever.—W. B. CUMMING, *South Africa*.

[We are sorry that the bees sent have arrived so completely covered with mould that it is almost impossible to identify them. We have, however, by diligently removing some of the mould, been able somewhat to make them out. They are a cross between the black and yellow races of South Africa. In your district there are two distinct races, one entirely shiny black, the workers being smaller than our European race. The queen and drones are also black. The workers of the yellow race are smooth and glossy, the hairs on head and thorax are yellow, and also the scutellum, or triangle, on the mesothorax. The upper abdominal rings are bright yellow, streaked with black, and the two lower segments are entirely black. The queen is of a deeper golden colour, and in the drones the upper segments of the abdomen are banded alternately black and dull yellow, the lower segments being similarly but less distinctly marked. The crosses between these two races produce very considerable variations, from pure black to those banded with yellow, and are found promiscuously in the hive. Your bees being a cross of these two races accounts for the different bees you find in the same hive. Bees occasionally surround the queen in a compact cluster, or 'ball,' and this is called balling. It is apt to occur when a strange queen is introduced to a colony, although sometimes a colony will ball their own queen if unusually excited or disturbed, more especially in spring and autumn. Bees sometimes ball their own queen for the purpose of protecting her from strange bees, as when robbing is going on. If the queen is not soon released, she is usually suffocated, and is thrown out of the hive.—EDS.]

IN THE HUT.

'Years steal
Fire from the mind, as vigour from the limb;
And life's enchanted cup but sparkles near the brim.'
BYRON.

[902.] Good wishes are hardly ever too late, and as I have had no earlier opportunity of wishing all our readers a Happy New Year (*vulgaris*, a nappy new 'ear), I do so now with all my heart, coupling with the toast 'The Old Pioneers,' so gracefully alluded to in last week's 'Notes by the Way.' I am sure, if they will only respond to Mr. Woodley's invitation to let us hear from them, that the above quotation will be falsified, and they will find, anyway, that years will not steal from us appreciation of their merits. I well recall the sturdy, manly, and outspoken opinions expressed in many of our earlier numbers. Be assured that it is not so much in well-turned sentences and closely clipped phrases as in honest Saxon straightforwardness that we bee-keepers look to our journals for light and leading; and it is gratifying to find the *B. B. J.* holds the *Record* (oh! thou innocent escaped jestlet!) as heretofore. This is not a back-handed way of 'scratching one's own back,' for 'X-Tractor' would not be allowed, even were he able, to use the plain terms he vaunts so much, in order that we may avoid offending many sensitive minds, and bee-keepers *are* sensitive, let me tell you. [So is 'X-Tractor,' we hope.—EDS.]

'Willing to wound, and yet afraid to strike,' should be expunged from our minds this New Year; rather let us remember the old verse dinned into us in youth by those who have gone before:—

'At trifles scorn to take offence,
That shows great pride, but little sense;
Good nature and good sense should always join:
To err is human; to forgive, Divine.

This calls to mind the 'Prominent Bee-keeper' of the week — William McNally. I can only say that if he is half as good-natured as his face says he is, there is *one* steady contributor to your columns who would like to make his acquaintance.

Yesterday the Hut got its roof swept clean of snow; so did the hives. I have had painful experience of the evils which follow in the train of slowly melted snow, frozen again into icicles, and into a frozen stalagmitic sort of formation on the flight-board. All without the hives is clear, dazzling, white, crisp snow, that crumbles under the feet, and even in the sunlight may be kicked off like marble dust. Although each hive has a board leaning in front of it to keep out the sunlight, a few bees are working, 'turning out the dead'—foolish things! rolling off, 'shuffling off this mortal coil' themselves in many cases. How they make the fine grains of snow fly about in their frantic efforts to fly! Close by are some gooseberry-bushes, and underneath one branch are legs alone, thorax and legs, heads of many bees, but no abdomens. These juicy 'titbits' have been choice bits for tits, I should say. Seems to me they have only been necrophagists; they have been making meals of the dead only, for the bough is opposite the hive that turns out the most dead, and the dead bees disappear. Cunning birds, to take them away to eat, lest ye get more than was bargained for! By the way, this is the thinnest-walled hive I have; a sharp

snap of frost drops the bees off the combs like the berries off the hawthorn.

Let me offer you a 'selected query.' When more room is required in a hive, where should it be given? Should it be always above brood nest, as favoured by Mr. Cowan; or there and behind it, as proposed by Mr. Abbott; behind and at the sides, as per 'Eclectic;' or even underneath, *à la* 'Nadir' and Howard? Is not one of our canons to the effect that bees store their honey as far from the brood nest as possible, and does not our observation bring us to the conclusion that they store it as near it as possible? We were taught that bees reserve the centre of their house for brood, sensibly building worker cells there, whilst on the margins of combs drones were reared, and honey stored still further away.

As I write King Winter is making a descent in force upon us—

'He comes—his snow robes with icicles
Adorn'd, like gems that in the sunshine gleam,
And far away the sound of chiming bells
Goes floating over vale and frozen stream.'

Quite six inches of snow have fallen in so many hours. Just my luck! I was congratulating myself this very morning on the satisfactory appearance of Hut and hive roofs, and now they are thicker clad than ever. Well, I must console myself with the philosophic reflection that in a frost a covering of dry snow is absolutely an aid to warmth in the hive. Just my luck! It used to be considered a sure indication of rain when the garden was watered by

X-Tractor.

FOUL BROOD.

[903.] I have thought of a mode of treatment for foul brood which I do not recollect having seen described in your *Journal* or elsewhere. Suppose it is present in an apiary of eight to ten stocks, one or two of which are affected, the owner only learning of its presence in the autumn, when visited by the Association's Expert. He treats the diseased hives as recommended during the autumn and winter, and hopes that a cure may be worked, but, much to his disappointment, the disease again shows itself in the spring. Now, Sirs, this is the time when my mode of treatment might be tried. On or about May 15th remove the queen from the diseased stock, and in eight or ten days destroy all the queen-cells started, leaving them no possibility of raising another queen. In three weeks from removing queen all the larvæ will be hatched out. On a quiet evening, when the bees have ceased flying, place a clean hive on the stand of the diseased stock, and in it put three or four frames of brood or eggs taken from other stocks, which they can easily spare at this time. If one frame has a ripe queen-cell all the better. Make the hive to the size required for the stock with frames of foundation. Now take the bees from the diseased stock and shake them on to the clean and healthy combs of brood, and feed them with medicated syrup for a fortnight; destroy the old comb, and with it, let us hope, the disease also. If there are two stocks diseased, they could be united at this time. Will you please state whether this mode has been tried, and if so, with what result? I was sorry to read in Mr. White's account of his tour in Lincolnshire, which appeared in the *Journal*, that foul brood is present in our county, but I am thankful it is not so in my district.—East Lincoln.

[We are not cognisant of any case in which the precise method detailed above has been followed. We think, however, that much better results would be obtained by a more direct or rough-and-ready method, involving less labour, loss of time, and a reduced risk of conveying the disease to other hives while manipulating, by dealing with it as follows:—If the disease has not yielded to the autumn treatment referred to, May is the month in which to expect a decided recurrence of the symptoms. When this is observed, if the bees are strong—otherwise they are not worth troubling with—shake the bees from the combs into a skep, and keep them there for twenty-four hours. Meantime prepare a clean hive with full sheets of foundation, and when the time has expired, transfer the bees from the skep to it, and feed as proposed. We do not like robbing thriving stocks of healthy brood and combs, at a time when they are of such importance to them, in order to utilise diseased bees. Rather would we join two diseased lots together to make them sufficiently strong to recover themselves on new combs of their own building.—Eds.]

THE ACCIDENT TO MR. A. G. PUGH.

[904.] Doubtless many of your readers will be pleased to hear an account of the progress made by our esteemed Hon. Sec., Mr. Pugh, so well known amongst bee-keepers. I called at the infirmary in Leeds, and found our friend progressing so quickly that we soon hope to have him amongst us again. Mr. Pugh has had a large portion of each foot amputated, and also received injuries to face and legs; his life was despaired of, but, thanks to his splendid physical condition and temperate habits, recovery seems now assured. His mental faculties are as good as ever, and he reads all our bee-literature, and is arranging report, &c., for annual meeting, and we may well hope that he may yet be enabled to resume his old post of Hon. Sec. of N.B.K.A., the duties of which are now performed by Mr. White, assistant secretary.—R. J. Glew, *Newark-on-Trent, January 10th.*

CLIPPING QUEENS' WINGS.

[905.] I am very glad you have set your face against the practice of clipping queens' wings. I hope no Englishman who is a lover of his bees would ever think of doing so; it is cruel in the extreme. I suppose because it is a general practice to clip birds' wings to prevent their flying away, we may, by the same rule, clip bees' wings; but, in the former case we only clip the feathers, while in the latter we clip the wing itself. I would rather lose every swarm than resort to so cruel a practice. If 'Expert' will

read carefully *The Honey Bee: Its Natural History, Anatomy, and Physiology*, by T. W. Cowan, he will see that 'the wings themselves are transparent membranes covered with very short hairs, intersected by threads darker than their substance, called nervures, veins, or ribs. These are hollow and thicker towards the root of the wing, allowing blood to circulate in them, and tracheæ also extend into them, the distribution of which corresponds to the course of the nervures.' Now I certainly think that cutting through such a mass of nervous matter must cause intense agony to the poor queen.—CHARLES AINGER, *Caistor, January 12th.*

Queries and Replies.

[473.] *Moving Bees in Winter.*—Kindly advise me, per *Bee Journal*, on the following points:—1. I have seven stocks of bees, and as they don't appreciate them at home, I have, up to now, kept them at a farm, distant about a quarter of a mile away. This is rather an inconvenient distance, and I have at last prevailed upon the authorities to allow me to keep them at home, on a bit of rough ground just outside the garden. There is a fence of young yew-trees at the back, about three or four feet high. If placed back to the fence, the hives would face S. by E. The fence would be about twenty yards from hives. Would it be advisable to move the hives, or is the proposed position too exposed? 2. When ought I to move them? Must I wait for a spell of frost, or will any cold night do? I have wintered three frame hives as recommended by S. Simmins, with frames placed across back of hive and front left open to the roof, without any dummy in front of cluster. Would the bees get into the roof-space when moved? I wintered two Stewartons without any outer cover, but putting a space below the frames, in one case an empty box, in the other a box of empty frames. I think they will do well. Bees did fairly well here, but I couldn't control swarming. One hive of hybrids gave me a big swarm and about forty pounds extracted. With pluck I might have had more, but their tempers! I mean to go in for blacks next season. Wishing you the compliments of the season.—MOUCHE-À-MIEL.

REPLY.—1. If your query refers to the yew-fence as a protection to persons in the garden from the risk of being stung, we should say it will answer the purpose very well with ordinary care in manipulating. 2. The bees may be moved any night when the weather is cold enough to keep them from stirring. Move them as quietly as possible. With care and on a suitable night the bees will remain perfectly still during the removal.

[474.] *Bad-tempered Bees and Apifuge.*—With reference to the article on 'Bad-tempered Bees' in *Bee Journal* of 31st December, p. 594, second column, would you be good enough to tell myself and other readers the constituents of the 'Bader Apifuge?'—R. J. P., *Elgin, N.B., January 4th.*

REPLY.—'Bader Apifuge' is a proprietary article—just the same as is 'Grimshaw's Apifuge'—the constituent parts of which are known only to the manufacturer. It is, therefore, quite beyond us to give you the information asked for.

FIRST-CLASS GOODS MUST BE HIGH PRICED.

'Got him at last!' was the naughty, gloating expression that rose to my lips on reading the April leader. Here, now, thirty-nine times I have read these plaguy leaders, and could not find a flaw sufficiently glaring to call for correction. This is too one-sided altogether! Editors ought to give their critics a chance once in a while. Well, I have got one at last, after waiting over three years; and I mean to make the most of it, lest I should not get another in a hurry. You tell us that adulteration of honey is practised because there is profit in it. 'Right you are!' But what proof have you that if honey were as cheap as glucose or sugar, adulteration would cease? None whatever. There would be just as much honey on the market when the yield is meagre as when it is abundant. It would be as it is in regard to port wine, the production of which is equally abundant when the vineyards fail as when they are laden with grapes. Most of the port wine of commerce never saw Oporto, or any other place in Portugal. Your argument, if it were sound, should presuppose that honey is put on the market *cheaper* than its rivals. At the same figure, glucose and sugar would be its rivals still. Only by cut rates could it run the adulterated products off the field. That would give the honey business its final quietus, for to sell it as low as glucose or sugar would entail a dead loss. It would be like cut rates on railroads. Wealthy corporations cannot stand that sort of thing long, and it would soon deal a death-blow to bee-keeping.

There is a kind of 'Eureka' air about your leader. Yes, you have found it, and you are in such a hurry to exhibit your discovery that you cannot wait to introduce it by due process of argument, and so the conclusion arrived at is given at the beginning of the article. It is done, too, in a gladiatorial fashion. 'I am going to say right here that I have more faith in cheap honey to prevent adulteration than I have in anything else that can be employed.' Well, I am going to say right *here*, that I have not a particle of faith in that way of preventing adulteration, and, farther, I don't think 'W. Z.,' when he comes down to hard pan, has any more faith in it than I have. Let us see: coffee is adulterated with dandelion and chicory. How do we guard against adulteration? By cheapening down Java and Mocha to the price of the inferior articles? No, but by taking more vigilant precautions against imposition. Cloth

and silk fabrics are adulterated. How do we guard against this evil? By getting the best woollen goods and the richest silks down to the price of shoddy? Not much. But by obtaining the goods from direct importers who order them from the manufacturers, and can give a guarantee of quality. There is no line of business in which a pure and genuine article can compete at the same figures with the inferior imitations. A gullible public, caught by flaming advertisements, will waste its money at cheap stores where it is pretended that the best goods are sold at less than cost, and low as the lowest; but sensible people know that a really good article must be paid for, and that in all honest trades quality settles value and fixes price. The mercantile world is chock full of this kind of humbuggery that preys on the credulity of customers, who are made to believe that a good and genuine article can be offered as low as inferior and worthless goods. There is no 'hocus-pocus' by means of which this can be done.

We had a discussion in one of the bee journals not long since as to the actual cost of honey production. I cannot take time to hunt it up, and can only give my general impression on the subject, which was, that there is only a very moderate margin of profit at current prices. Now, talk about cheapening production, and finding out methods by which one man can take care of several apiaries of 150 colonies each—no man knows better than the Editor of the *Review* that this is romance. He almost admits it, for he gives expression to a passing thought which flitted across his mind, and which he ought to have detained for close examination. 'I may be a visionary enthusiast.' That's what you are, Mr. Editor, in this particular, without a doubt. I am down on all superficial, hurried, slipshod ways of doing business. Whatever is worth doing at all is worth doing well. I do not want to see our apiaries filled with all kinds of cheap gim-crackery, hustled up for the purpose of pouring out floods of low-priced honey on the market, and running out glucose; but I want to see them respectable business establishments, fitted up with the best appliances for producing the highest quality of honey and putting it on the market in the most attractive shape. I doubt if the actual cost of honey-production can be got down much lower than at present, and I am sure it cannot be got down low enough to run the bogus article out of the market.

How does the Editor of the *Review* propose to outrival the cheap adulterated bee literature of the day? By making the best as low as the worst? By so reducing the cost of getting up a bee journal that he can give us cream at the price of very blue skim milk? No, indeed.

I think you do the bee-keeping public injustice in saying that it is almost wholly on selfish grounds that they oppose adulteration. It is not selfishness to demand honest dealing between man and man. When this is denied, there is that in human nature which bristles up and becomes indignant. A virtuous anger is awakened. Right is right, truth and equal justice ought to prevail. I shall make no apologies, and take no blame to myself for hating all mean frauds, all lying cheats, all attempts to deceive the public. Adulteration is just what the word means, a contamination, improper, unlawful mixture; and I believe the great mass of bee-keepers oppose it because it offends their moral sense, as well as because it touches their pockets. They want a clean, honest world to live and do business in.

Neither do I believe in the policy of silence. It is to my mind a species of hypocrisy to keep mum about the evils that there are in the world. There is an element of cowardice in it as well. Either it is a fact that honey is adulterated or it is not. If it is, proclaim it with the voice of a trumpet. Shout it from the house-tops that every buyer of a pound of honey may know it. Tell the people to mind where and of whom they buy their honey. Warn them not to get it from Tom, Dick, and Harry, who concoct it in hole-and-corner glucose factories, but to buy of reputable bee-keepers, who can be found, who are not afraid to put 'Lindenbank Apiary,' or some other well-known name on their product, and who are ready to pay a big fine if any adulterated article can be traced to their doors. I like the principle embodied in Mr. Heddon's idea of a trade mark, but it is itself so easily adulterated—rather, counterfeited—that I fear it would not have the desired effect. I see nothing for it but for bee-keepers to enlighten the public, unite to denounce and frown down adulteration, take pains to produce as perfect an article as possible, put their names to their wares, make a live and proclaimed business connexion with those who sell for them, supply their own home market in person, and trust to quality, which is like blood, and 'will tell.'

I like the way in which Dr. Tinker advertises his beautiful white poplar sections. He does not pretend to sell them as low as the inferior brands. They are worth more, and he wants more for them. In like manner I would have bee-keepers frankly tell the public, 'We cannot afford to sell this A 1 honey at the low price at which others offer a nondescript mixture of concocted stuff. It is worth more, and we want more for it.' The great majority of people will get the best if it does cost more. That is what we ought to educate the public up to. Put me on record as opposed to going it on the cheap. I am willing to pay fair value for what I buy, and I want it for what I have to sell.—W. F. CLARKE *in 'Bee-keepers' Review.'*

HOW TO RAISE GOOD EXTRACTED HONEY.

We believe it is generally admitted that more extracted honey is secured because the bees have no combs to build. No honey is consumed expressly to produce wax, the comb-builders are released for other labours, and, above all, when the honey-flow is abundant there is plenty of

store-room. It has been said that the production of comb honey requires greater skill than does the raising of extracted honey. Be this as it may, we believe that the securing of a *good* article of extracted honey calls for knowledge of no low degree—that the subject is of sufficient importance to merit all the discussion that can be crowded into one number of the *Review*.

First, let us ask what it is that gives to honey its chief value? It is not simply its sweetness, which is of low power, but it is its fine flavour, its rich aroma, its bouquet. These are the qualities that make honey what it is—a luxury; and, if we wish its use, as a sweet sauce, continued, we must learn to raise and care for it in such a manner that its ambrosial, palate-tickling qualities will be preserved. Freshly gathered nectar is usually one of the most 'silly' tasting and sickening of sweets. To be sure, it has the flavour of the flowers from which it was gathered; but that smooth, rich, oily, *honey* taste, that lingers in the mouth, must be *furnished by the bees*. Honey extracted when 'green,' and evaporated in the open air, is not only lacking in the element that comes from the secretions of the bees, but its blossom-flavour is half-lost by evaporation. To be sure, evaporation must take place even if left in the hive; but evaporation in the open air, and evaporation in the aroma-laden atmosphere of the hive, produce different results. One reason why comb honey is, in so many instances, found to be more delicious than the extracted is because the former is more thoroughly ripened. Seldom do we find extracted honey equal to that dripping from and surrounding the section of comb honey that is being 'carved' upon a plate. Suppose we go over the ground and tell, as concisely as possible, how to raise, in the cheapest manner, extracted honey that will be the equal of that that drips from the delicate morsel of comb at the tea-table.

Until the time of putting on the supers, our management would be the same as that advised in the producion of comb honey. In the supers we would use shallow combs, and practise tiering up, the same as in raising comb honey. Right here comes in an advantage not present in raising comb honey; in tiering up, we need not wait for the honey to be *sealed*. Most bee-keepers know that honey is seldom sealed until it is ripened; but all do not know that it may be ripe, and yet not be sealed. In fact, the ripening process may be hastened, or made more complete, if the sealing can be prevented. In other words, the ripening process goes on more slowly after the cells are capped, and would not go on at all were it not that the cappings are more or less porous. By raising up these shallow sets of comb as fast as they are filled, and putting another set under them, those the furthest advanced are kept at the top, and the inclination to capping thereby discouraged. If the honey can become thoroughly ripened, with perhaps only one-third or one-half of the cells sealed, what a saving there will be in uncapping! If we had plenty of combs, and could, to a large extent, prevent the sealing of the honey, we would leave it on the hives until the yield from one source was over. Just notice with how little labour this can be managed; we have only to watch and give additional room when it is needed, and hive the few swarms that issue. We would use a queen-excluder; then, whenever we were ready to extract, there would be no brood in the way. One of the most tedious performances attending the raising of extracted honey is the getting of the bees off the combs. The smoking, and shaking, and brushing, accompanied by robber pests if the work is done after the harvest is over, a scalding sun overhead, make up a combination that is very trying to the 'nerves.' The bee-escape *promises* to relieve us of nearly all of this unpleasantness. When extracting, quite a little time is spent in taking out the combs and turning them. We believe the reversible extractor practically saves this time. We should be glad to hear from those who have tried the reversible extractors—or any other extractors, for that matter. It would seem that, in the raising of extracted honey, the *kind* of machine used would play an important part; and, in a discussion like this, ought not to be omitted.

After the honey has been thoroughly ripened, and is extracted, and found to be in possession of all the fine qualities we have mentioned, what shall be done with it? How shall it be treated that it may retain its flavour? The key to success in this direction is *exclusion from the air*. Seal it up in glass jars, in tin cans, or in clean barrels. Our preference is the sixty-pound square tin can, with screw cap, and, when shipped, a jacket of wood. Upon the approach of cool weather, honey will candy: and, if put away in a cool place, will remain in this condition for years; and when *slowly* and *carefully* brought back to its liquid state, will be found to have retained its original 'flavour, aroma, and bouquet.' In this discussion, we don't wish to say very much about marketing, as we probably shall have a number devoted to that subject ere the year is out; but we will say that we believe that nearly every one prefers extracted honey in the liquid state, and that it should be put upon the retail market, and sent to consumers, in this condition. It should be liquefied just before shipment to customers. For this reason it is an advantage if the vessel in which it is stored, and in which it is to be shipped, is also one in which it can be melted.—*Bee-keepers' Review*.

HOW TO SELECT COLONIES—EXTRACTING FROM BROOD COMBS.

A correspondent writes: 'I desire to purchase some bees in the spring. Will you please tell me how to select good colonies, and what prices I ought to pay?' A majority of persons, especially beginners, are apt to think that if a hive is heavy with honey, and there are live bees in it, such are the ones to pur-

chase, without any regard to what kind of comb there is in the hive, or the size of the colony.

This is a mistaken idea. Good combs and plenty of bees are of far more value than honey. As there are those at the present time who still persist in keeping bees in box hives, and the bees in such hives can be purchased for less money than they can in frame hives (besides, the frame hive might not be the purchaser's liking), I would select box hives, and then transfer to such hives as suited me.

The colonies may be selected any cold day during the months of March and April, by turning the hive over carefully, so as not to arouse the bees. Examine the combs carefully and see that they are all straight and nearly all worker comb, and there should be bees in at least five spaces; or, in other words, the bees should enclose four combs, while six to eight spaces filled with bees would be all the better, with from ten to fifteen pounds of honey. If possible, select such colonies as cast a swarm the previous season, or a second swarm, as such will have young, prolific queens.

Persons having bees for sale in box hives do not, as a rule, read the bee-papers, so they do not know the difference between a good stock hive and a poor one, and will make no distinction in price as to those having young queens and good combs, for all are alike to them.

About the price. Four dollars is the usual amount asked for bees in such hives during April, but I have seen colonies sold for eight and ten dollars that were worth but little more than the honey that was in the hive; and I have seen colonies sold for two dollars that were better worth ten dollars than others would be as a gift. The same holds good as to frame hives. A person had better pay ten dollars for a hive that has the frames filled with straight worker combs, well stocked with bees, than have a hive with the combs built crosswise of the frames, with two-thirds of that drone comb, and an old, poor queen, given to him for nothing.

'When I am working for section honey, my bees are prone to store more or less honey in the brood combs. Had I better extract this honey occasionally?' is a question sent in by another correspondent. I have been a careful observer, and find that when bees are at work best in the sections there will be scarcely a pound of honey in the brood frames, providing that the body of the hive is not too large. I mistrust that the trouble with this correspondent is that his brood chamber is too large, so that the first honey which comes in goes into the brood combs instead of the sections. But the extracting of this honey would only make matters worse, for it would give the bees a chance to put more honey below, instead of going into the sections, as we wish.

If any one expects to get a large yield of comb honey, and use the extractor on the brood combs at the same time, they certainly will not realise their expectations. After the bees get thoroughly at work in the sections, let the brood combs alone, and you need have no fear of the queen being crowded, for as soon as the bees are thus occupied they will carry the little honey they may have in the brood combs, with a hive of the proper size, up into the section, thus giving the queen abundant room.

For instance, I have taken nine Gallup frames, well filled with sealed honey, having a good strong swarm of bees with a good queen in such a filled hive, putting on the sections before hiving the swarm, and in from fourteen to eighteen days (if honey is coming in from the fields) every bit of this honey and all the bees gathered, not consumed by the brood, would be in the sections.

Once more. If you let a first swarm issue from a hive and keep them from swarming again (allowing the hive the swarm came from to remain on the old stand), by the time the young queen commences laying every available cell in the brood chamber will be filled with honey, and still no start be made in the sections; but as soon as the queen gets to laying to any amount, the bees will commence to work in the sections, and I have known every section to be completed in ten days from the time of commencing under such circumstances.

Examine that hive in eighteen days, and you will find scarcely a cell of honey in the brood combs, and as nice a lot of brood as you ever witnessed. Now, we will suppose that just as this queen was fertilised the honey had all been extracted from the brood combs; not a single pound of section honey would have been obtained, in all probability, unless it came late in the season from buckwheat or fall flowers.

Bees will always store honey in the brood chamber in preference to the sections, when there are empty combs or empty cells there, and the more extracting of these brood combs the more empty cells we give, unless the queen has the cells occupied with brood, in which case there will be no honey to extract. Again I repeat it, if you wish a large yield of section honey, keep prolific queens, and let the brood combs alone after they are once filled with brood in the spring.—G. M. Doolittle, *in 'American Bee Journal.'*

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

**** Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

James F. (Uttoxeter).—*Buying Hives.*—On no account make the purchase until the weather permits of an inspection of the bees and combs.

A Beginner (Warwick).—*Amount of Food in Hives.*—By lifting the hive as it stands you may make a fairly good guess whether it is starving or not. When the weather is warm enough unscrew the crown-board.

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Bees have had a close time of late, and the weather has concerned us not: so rapidly, however, does time roll by, that bee-keepers are already beginning to shake off the apathy of winter and 'pull themselves together' in view of the coming season's requirements. Very soon will come the counting of how many stocks are safe and likely to do well; then follows the usual amount of speculation as to the probabilities of a good season *this* year surely! Hard frost, if it does not last too long, is all in favour of the bees; in fact, it is one of the best preservatives of bee-life, other conditions being seen to, and if only the bees were to be considered we should not have been sorry to see it continue a couple of weeks longer.

WEATHER CHARTS AND FORECASTS.—Without placing too great reliance on forecasts, we find ourselves yielding to quite the usual interest in weather statistics. There is an attraction about such things which bee-keepers find it hard to resist; and, following the bent of our inclinations in this line, we have been looking over the probable weather in the British islands for 1892, as given in a 'weather chart' which a reader of the *B. J.* has kindly sent us. Our friend places great reliance on this particular chart, and points out the accuracy with which the predictions for the past year of 1891 have been fulfilled. Here is just where the interest of the reader comes in, because, according to the document before us, we are to have a good bee-time—so good that we may echo the old bee-man's exclamation, 'Send it may come!' Passing over the earlier months we find that April is set down as 'a wet month'—good for the growth of the clover root. May, 'a dry month,' warm at the beginning—just the kind of weather to make bees take to surplus chambers. In June and July, also, fine weather predominates, though some thunder-storms are foretold. August is to be wet and September dry. This is as far as we need follow the 'chart,' and surely it is good enough to suit even bee-keepers. Moreover, if any reader feels desirous of examining for himself the method in which the calculation is made, a copy of the *British Weather Chart* may be had from R. Morgan, 65 Westow Street, Upper Norwood, London.

NEW METHODS OF BEE-KEEPING *versus* OLD.—It may well encourage bee-keepers who have adopted modern methods to give a wide birth to the old fogeyism which would have us believe that nothing is good that isn't old when they read of the excellent results obtained in the past very moderate season, as reported in our pages. Nothing so proves the goodness or badness of a plan of bee-keeping as *honey results*, and we think that readers of the *B. J.* stand so well on this particular point, and their example is so likely to be followed, that we may safely predict that a few years hence will see the total extinction of the methods of five-and-twenty years ago.

INFLUENZA.—We wonder how many of our readers are down with this scourge? It may, perhaps, seem out of place to refer to the subject in 'Hints,' but we justify our allusion to it on several grounds. First, lack of matter on which to write until the time for active work is nearer to us; and, second, because we may venture to offer a 'hint' or two for treating the complaint:—(1) By taking it in time, and remaining in bed for three entire days; (2) sprinkling a few drops of eucalyptus oil on pieces of blotting-paper about the room; (3) taking an occasional dose of warm whisky, with a spoonful of honey in it; and (4) carefully observing the following precautions, which we quote from a leading morning paper:—'The primary sefeguard is the exercise of reasonable care. If the illness be treated as absolutely trivial, it may prove extremely serious. But if the patient

surrenders in good time to the necessary limitations as regards exposure to air and persistence in work, he will have little save temporary inconvenience, and more or less acute discomfort to complain of.' It is reassuring to have an authoritative opinion like the above, and especially to know the facts stated; at the same time it is amazing that so many cases should have terminated fatally if the simple precautions noted are sufficient to render the complaint comparatively harmless.

Readers will be sorry to learn that our esteemed colleague, Mr. Cowan, is suffering from the complaint, while for the 'acute discomfort' caused by it the writer can vouch, having had a touch of it himself.

OUR YEAR'S SUNSHINE.

The following extract from an article in the *Standard* of January 14th will be read with interest by bee-keepers:—

'The Meteorological Council have just publisked a review of observations which they have collected, bearing the title "Ten Years' Sunshine in the British Isles, 1881-1890." It is now about ten years since the systematic registration of "bright sunshine" was organized by the Meteorological Office in different parts of the United Kingdom, and the present publication gives the results obtained since the series of observations were begun. Means and averages of other meteorological elements—such as barometer, wind, and temperature—have been published, but there was not any standard by which to compare the ordinary records of bright sunshine. The volume of results now issued will enable comparison to be made of the relative proportion of sunshine in different years and different months, while the more favoured districts can be readily identified. The results are given for forty-six stations, and are entered in tables, arranged in order of latitude, showing the total number of hours of sunshine in each month, and for each of the ten years, as well as the percentage amount of the possible duration. The average is also given for each five years, and for the whole period of ten years. December is shown to be the most sunless month of the year, considering the whole of the records; Jersey is, as in nearly all other months, the place with the largest amount of sunshine, the percentage of the possible duration there being 23; this is followed by Falmouth with 22 per cent.; Southborne, Plymouth, and Dublin with 21 per cent.; and Geldeston and St. Ann's Head with 20 per cent.; whilst at Bunhill Row, which occupies a fairly central position in the Metropolis, the results exhibit the miserable record of 2 per cent., and Greenwich and Glasgow are not much better. January has slightly more sunshine than December, although in many districts the amount is very poor; at Bunhill Row, in the heart of London, there is twice as much sunshine as in December, yet the total amount is only 4 per cent. of the possible duration. A great increase of bright sunshine is noticeable in February, when Jersey, which again heads the list, has 31 per cent., and Falmouth, St. Ann's Head, Valentia, and Aberdeen, each have 27 per cent., while the only stations which fail to record 20 per cent. are Leicester, Glasgow, and London; the lowest of all is Bunhill Row, with 9 per cent. March shows still further progress, and the only station which does not receive at least 20 per cent. is Bunhill Row, while Jersey is the only place with 40 per cent.

A further considerable increase is shown in April, when there are several stations in the south-west, south, and east of England with more than 40 per cent. of the possible duration, and Bunhill Row begins to compare much more favourably with places situated in the suburbs of the Metropolis, a feature which is maintained during the summer months. May is the sunniest month of the year, except at a few of the southern stations, but Jersey is the only station at which the sun shines for more than half the time it is above the horizon. June is said not to be particularly sunny, especially considering that it is the month of the summer solstice; outside the south and south-west districts there are only two stations with 40 per cent. of the possible duration. July is even less sunny than June, and the places with the least sunshine are now Markree and Glasgow, with 26 per cent., whilst the northern and north-western stations are generally below 30 per cent. August is particularly sunny for central and southern England, and particularly sunless in the north-west of Ireland and of Scotland; Jersey averages 55 per cent. in this month, which is its highest percentage of the year, and almost every station in England, south of the latitude of Yarmouth, registers at least 40 per cent. September exhibits a considerable falling off in the values, and this change is also maintained in October. In November the winter conditions are again indicated, and, for the only month in the year the Channel Islands are not the most sunny part of the United Kingdom. The discussion shows that the seacoast receives more sunshine than the inland parts of the country, and the south and west coast stations, especially the Channel Islands, are particularly favoured in almost all months of the year, whilst the east coast of Great Britain, as represented by Aberdeen, Geldeston, and Hillington, is comparatively sunny. In the summer and early autumn the north-west of Ireland and of Scotland, with the Orkneys, receive very little sunshine, whereas, on the other hand, in the late autumn Ireland generally receives more sunshine than most of England. It must be remembered that large manufacturing cities, like London and Glasgow, cannot fairly be compared even with stations in their own immediate neighbourhood, particularly in winter, as the records seem to be materially affected by smoke.

During the period of ten years the month in

which most sunshine was recorded over the United Kingdom was May, 1882, but June, 1887, her Majesty's "Jubilee" month, was almost equally sunny. The sunniest summer in the heart of the Metropolis was 1887, when the aggregate sunshine in the three months, June, July, and August, was 597 hours, whereas, during the same three months in the following year the sun only shone for 350 hours, the summer of 1888 being the most sunless during the period. The form of sunshine recorder generally in use by the Meteorological Office consists of a metal bowl, with two clamps holding a strip of coloured cardboard. A solid glass sphere so rests in the bowl that the sun's rays shining on it are centred on to the card, which is divided into hours and quarter-hours. When the sun shines brightly, a spot is burned upon the card, and if the sunshine is continuous the spot develops into a line. If a cloud covers the sun the burn is intercepted, and when the sun sinks towards setting the trace ceases. At the end of the day the card is examined, and the duration of sunshine is thus obtained in hours and minutes. Detailed statistics are also given as to the position of the recorder at the several stations. The whole work is one of great scientific value, and will afford useful information to all kinds of people.'

HUBER'S LETTERS.

Sixth Letter.

Sir,—It is a very long time since I have had news of you; I believe it is my fault, and that does not make the matter any better. Not being able to write myself, I do not always answer so promptly as I should like to. I have to spare the eyes which are lent me, and which I make use of much more than I ought. That is the only reason for my negligence, for I very often think of you, Sir; our mutual tastes are a guarantee of this, without reckoning that I know what a gainer I am from these communications.

Your memoir on the plants that the bees prefer, and on the succession of those which it is advisable to place within their reach every season, interested me very much. I communicated it our Society of Naturalists, which met at my house the first Tuesday in June; our colleagues were very pleased, and it was placed in our archives.

I was prevented by bad weather from attending two meetings of the Philosophical and Natural History Society. There is to be one to-morrow at Professor Pictet's; he always knows how to make them interesting. I wish you were here to enjoy them with us. Could you not come once and favour our two societies by your presence? We would all be delighted to see you here, and to hear you read fragments from your portfolios; for my part I am very impatient for that time to come.

This year, of which everybody is complaining, the small quantity of hot weather and these continual changes in the temperature are not unfavourable to the bees. Never have the queens been so fertile—at least, not to my knowledge. Our hives have generally given two, and often three, swarms, without weakening the mothers too much. They even say that first swarms have been seen to swarm and found a new colony, but the good is exaggerated as much as the evil. I was assured the other day, that certain hives had swarmed five or six times. It was asserted that this was not all rare at Rumilly.* Please get as much information about that as you can, Sir.

The honey and honey-dew have never been more abundant; wax-working has never ceased, as it usually does after haymaking, and especially in very dry seasons, because the plants in the mown meadows have grown and flowered very quickly, favoured by the alternations of rain and fine weather; nor has propolis failed, as it did in the preceding years.

I notice that the drones remain in some hives later than I have ever seen them. I have still a good number in one of my glazed hives, whereas other colonies have turned them out or killed them long ago.

M. de Gélieu† wrote me the other day that there was only one year in ten in which there was really a good season for the bees in our climate. Have you made this observation?

An amateur writes me that in Italy they believe that bees can be preserved from the ravages of the wax-moth by putting a piece of Russian leather into the hives. It is not that the wax-moth dislikes the smell; on the contrary, it attracts them, and it is because they lay their eggs under this leather that the hives are protected. You must understand that it is necessary to take it out every morning to remove these eggs. Until this has been well proved, this remedy seems to be a dangerous one, and whoever finds a better one will render a great service to the bees and to those who cultivate them.

Has the *Sphinx atropos* increased as much as one would have supposed? If it confides its eggs to the ground, the winter rains would have killed a good number of them. For all this, Sir, guard your hives from its attacks, and place some good gratings in front of entrances, before this winged insect appears on your property.

It will give me great pleasure if you will tell me about your bees and occupations. I shall be interested to hear of your health and of that of your family.—I remain, your devoted servant,

F. Huber.—*Au Bouchet, near Geneva, Thursday, August 8th*, 1805.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of December, 1891, was 421*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

* In Haute Savoie.

† Jonas de Gélieu, author of the *Conservateur des Abeilles.*

TO MEMBERS OF THE BRITISH B.K. ASSOCIATION.

The Secretary of the British Bee-keepers' Association acknowledges the receipt of a subscription of 5*s.* unaccompanied by the name and address of the sender. The latter bore the postmark of Market Deeping.

HONEY IMPORTS FOR 1891.

The full returns of the value of honey imported into the United Kingdom for the year 1891, according to the returns furnished to us by the Statistical Office, H.M. Customs, are as follows:—

January	£2557	August	£3594
February ..	3845	September ..	1422
March	2927	October	811
April	7334	November ..	1150
May	6070	December ..	421
June	5614		
July	3102	Total value..	£38,427

CARDINAL POINTS IN BEE-KEEPING.

QUERY.— *What are the five cardinal points in bee-keeping?*

I do not know.—C. C. MILLER.

Strong colonies at dawn of harvest.—A. J. COOK.

Three points will express it: Bees, pasturage, a bee-master.—E. SECOR.

These cardinal points can be summed up in two: To know what to do, and do it in time.—DADANT & SON.

Good queens. With good queens a good bee-keeper will look after the other points.—H. D. CUTTING.

1. Entomology. 2. Botany. 3. Queen-rearing, 4. Mechanics—invention. 5. Pluck, gumption. and greenbacks.—J. W. TEFFT.

As there are about as many 'cardinal points in bee-keeping' as there are bee-keepers, I cannot answer.—J. P. H. BROWN.

1. The bee-keeper. 2. Strain of bees. 3. Hives and fixtures. 4. Location. 5. Market and shipping facilities.—C. H. DIBBERN.

The man, the location, strong colonies at the time of honey-flow, best strain of bees, and a hive adapted to the wants of the man and bees. —G. M. DOOLITTLE.

1. Winter well. 2. Vigorous queens. 3. Strong colonies. 4. Good hives. 5. Good judgment in managing bees and selling the product.—MRS. L. HARRISON.

1. Spring protection. 2. Large brood nests in spring. 3. Small brood nests during the harvest. 4. Plenty of surplus room. 5. Plenty of stores for winter and spring.—G. L. TINKER.

I am at a loss to know what is meant by cardinal points. I can only guess. 1. A man or woman that has 'gumption.' 2. A good movable frame hive. 3. A good location where forage is abundant. 4. A good race of bees. 5. Industry and close attention to the needs of the hour.—M. MAHIN.

I was not aware that there were five cardinal points in bee-keeping, but five points can be named that are essential in securing the best. results. For instance, a person qualified for the business; a good location; the proper number of colonies of bees kept strong; the best appliances; everything done at the proper time.—A. B. MASON.

1. Perfect wintering. 2. Plenty of food during the spring months. 3. Unlimited nectar-yielding pasturage during surplus gathering. 4. A man who will give the proper space for surplus. 5. Perfect wintering.—R. L. TAYLOR.

1. Have all necessary supplies at hand in early spring for the summer's work. 2. Good, prolific queens from a choice strain of Italians. 3. Hives easily adapted to the needs of weak or strong colonies. 4. A location that has an abundance of white clover and other honey-producing plants. 5. Keep your colonies strong.—J. M. HAMBAUGH.

1. Select a good field, and keep it all to yourself. 2. Get bees enough to stock it. 3. Keep them in hives that can be handled rapidly. 4. Ripe honey, put up in attractive form. 5. Watch the market, and hustle around and sell honey at the right time and at the right place. Some will give us the old chestnut, keep your colonies strong. Any one knows enough for that.—JAMES HEDDON.

I never heard of the five cardinal points in bee-keeping. I should say that there were many more than five. To learn bee-keeping thoroughly, one should study the best works on bee-culture, in connexion with practical work in the apiary, subscribing and paying for the *American Bee Journal* and other bee periodicals, in order to keep abreast of the times, and you will soon know all the points, cardinal or otherwise.—J. E. POND.

I should think that there are at least five times five 'cardinal points in bee-keeping;' and you might begin with 'adaptability of person' and end with adaptability of person. I think it depends altogether on the man as to whether bee-keeping will be made a success as far as the rickety business admits of success. We think that there is one cardinal point, 'adaptability,' and you may repeat it five times if you like, and you will have my answer.—G. W. DEMAREE.

Probably the author of the question meant principal for 'cardinal.' The cardinal points in geography are the principal points of the compass—north, south, east, and west—just four, not five. In bee-keeping, the principal requirements are good bees, plentiful pasturage, suitable climate, proximity to a good market, and an energetic bee-keeper who understands how to manage bees and market the produce.—THE EDITOR.—*American Bee Journal.*

STATE AID FOR BEE-CULTURE IN AMERICA.

The Department of Agriculture has recently added to its scientific staff an expert in bees. Secretary Rusk is of the opinion that the keeping of these insects might be made a vastly more profitable industry in the United States than it now is. It is estimated that bees in this country produce a value of $10,000,000 yearly in the shape of honey and wax. This could be multiplied by ten without much difficulty. First, however, the farmers must be taught the art of bee-culture, and this is precisely what it is proposed shall be attempted.

Next year a plant will be established for the purpose by the division of entomology, and experiments will be made with methods for caring for bees. Also, it will be ascertained which of the various races are best adapted to the climate, and a study will be made of their diseases. Possibly, Dr. Benton, the expert referred to, will be sent abroad to get other varieties. Of course, there were no honey-bees on this continent until the white man brought them hither from the Old World.

There has been a great controversy for years past between the fruit-growers and the bee-keepers over the question whether bees destroy fruits by cutting them open. Bees are often seen in the act of sucking the juices of fruits, but, as a matter of fact, it is always wasps that cut the skin, and the bees subsequently drive away the wasps for the sake o getting at the juices. Thus the bees have got a bad name through a very natural mistake, while, in truth, if it were not for their assistance in fertilising the blossoms, hardly any fruit would grow and ripen.—*American Bee Journal.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements.)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

DRONE FOUNDATION.

[906.] In the face of the natural dislike of bee-keepers to drone comb, it is a bold measure to advocate the manufacture of drone foundation, but I would suggest that it might be advantageously introduced for shallow frames and sections for the following reasons:—

Firstly, bees build drone cells for their own storing purposes, and, in the absence of the queen, they will build no other. Hence we may reasonably conclude that drone cells are more easily, and perhaps more quickly, constructed than worker cells, and that drone foundation would be very welcome to them in supers.

Secondly, more honey could be stored in each frame.

Thirdly, it would be more easily extracted.

Fourthly, *I believe* that there would be less likelihood of pollen being stored.

Fifthly, sections from this foundation would be pleasanter to eat, as they would contain less wax in proportion to honey. Certainly with whole sheets, and probably with only strips of drone foundation, the cells would be of uniform drone size, so that the sections would not be unsightly. It would be an interesting experiment to try whether bees can be induced to pull out foundation with still larger cell bases for storing purposes.

For getting early drones, or for causing unavoidable drones to be bred where the grubs could be easily got at and removed, there would be some advantage in drone foundation for the brood nest. In illustration of the latter purpose I may perhaps allude to certain operations of my own last spring. I had wintered a strong colony of hybrid Carniolans on ten frames in one of Baldwin's No. 2 hives, holding thirteen frames. In February, a very fine month in the south, there was reason to believe that provisions were running short. Having by me a frame of empty comb almost entirely drone, I took a hint from Mr. Cheshire's book, and filled the cells with a mixture of honey and pea-flour, and I placed the frame at the back of the brood nest, next to the dummy.

In the end of March—sorry not to be able to give exact dates—there were drone grubs on both sides of the frame, some few being sealed. I removed it, substituting two frames with full sheets of foundation, and at the same time closing up all the frames to one and three-eighths of an inch interval. In a few days I put on a box of shallow frames with foundation, and at each end of the box a shallow dry-sugar dummy. The foundation was soon drawn out, and was replaced as wanted by fresh foundation till the honey-flow. Briefly, twenty-five sheets were pulled out, and close on one and a half hundredweight of honey sealed by the 20th July, when I removed supers and put the frames at usual intervals. *Not a drone* was seen till July, and then very few. Perhaps they came from other hives. Of course, no swarm. In spite of a wretched autumn, so much honey was afterwards stored that I was able to take two frames for other hives.

No doubt the labour and expense of rearing drone grubs must be considerable, and it would be poor policy to tempt the bees to it by keeping a frame of available drone comb constantly in the hive. But a strong and well-fed colony will almost always produce drones in the spring, somehow or other, as a preparation for swarming, and generally speaking this is un-

welcome to the bee-keeper. It may well be that the loss of their first batch of drone grubs, comb and all, would dishearten most colonies, and deter them from further effort, as it seems to have done mine. Should there be anything in this idea, there would be the advantage in using drone foundation that no worker brood would be sacrificed or in any way disturbed.

On the whole, I submit that a fair case has been made out for the use of drone foundation. Could any enterprising tradesman be induced to manufacture it?—A South Devon Enthusiast.

[Our correspondent seems to be unaware that drone foundation *is* manufactured, and has been for some years. Though less used than formerly, he will have no difficulty in obtaining it from any appliance dealer.—Eds.]

NOTES BY THE WAY.

[907.] The weather here shows signs of relinquishing its iron grasp. We have had very little snow during the past fortnight, just enough to give the face of nature a wintry aspect; but the frost has been very severe, and our bees have been confined to the hives for some time, and I have no doubt a cleansing flight will be appreciated by the bees as soon as the temperature is warm enough for them to venture forth.

Queen-excluders, I take it, are used to prevent the queens going up into the supering compartment—whether it be shallow or deep frames, or a sectional super; and I have no doubt that the slotted honey-boards used by our American bee-keeping friends are as useful for the purpose as our whole-size-of-super sheet of excluder zinc, and would help to fulfil some of the conditions advocated by Mr. J. G. K. With two large apiaries run nearly exclusively for comb honey in the sections, I have no use for perforated zinc when working hives for section honey, but with hives worked for shallow extracting frames I use full sheets of excluder zinc.

Loss of heat in the brood nest must occur whenever a hive containing a colony of bees in a normal condition is opened for manipulation, and I fail to see how it is to be avoided if we are to continue to super the bees with either sections or frames. Several things, however, serve as counteractants and protect our bees from injury. When giving an extra story to the hive, the careful bee-keeper only supers when the colony is in prime condition to take advantage of the additional room, and, as a preventive to loss of heat, he very carefully adds more wraps. Then there is the greater preventive of loss of heat in the brood nest at supering time, and that is the higher temperature of sunny June. Then, on the other hand, we want our supers warm and comfortable, so that the bees may take to them at once, and the heat of the colony below (brood nest included) is positively required in the super if we are to secure a crop of honey, and get our crates filled with full saleable sections, so that, even admitting the heat arises into the super, I maintain there is no actual loss. And provided there is no draught allowed through the brood nest, I cannot see where the objection is to full sheets of zinc under the sectional supers, except as I have said before. Years of practice have taught me excluders are not required for sectional supers, but so long as we use the present style of supers to hold twenty-one sections so long will the bees have the privilege of either going up the sides of the hives, or up the front or back combs, to deposit their loads of nectar in the prepared cells in the super, as fancy may dictate, or if the busy fielders prefer, they are at liberty to go through the thick of the nursery with their loads, or may transfer their loads to other young hands, who have not ventured to the fields yet, and thus possibly get the watery extract reduced to the proper consistency ere it is placed in the cell.

This subject brings up such crowds of thoughts, but space forbids, and I will pass on to other items.

I have no doubt you will have a full annual report of our Berks B.K.A.; therefore I shall only touch lightly on a few points of general interest. In the first place, I would like to mention the satisfactory state of our finances, thanks to the indefatigable energy of our Assistant (*now* Hon.) Secretary, Miss R. E. Carr-Smith. I am sorry to add that Miss Carr-Smith was unfortunately unable to be present at the annual meeting (being laid up with the prevailing epidemic—influenza) to receive the very hearty vote of thanks of the Council for her work for the Association.

Thus we start the New Year with a balance of several pounds in hand, and with a feeling of courage and hope of placing our Association at the head of the list of county associations. The lecture by Prof. Cheshire on 'Bees, Honey, and Flowers,' which followed the business proceedings, proved an intellectual treat. Prof. Cheshire opened with a few remarks on wintering bees; and then gave us the life history of one of the solitary species of bees—viz., the *Megachile Centemcularis:* how she prepared a nest by burrowing into the ground, then lined her burrow with pieces of green leaf—preferably rose-tree leaves; then how she prepared the food, a mixture of honey and pollen, in the cell formed with leaves, then laid an egg, and repeated the process until five eggs were laid; and explained how the last egg, deposited perhaps several days after the first one, hatched out first, and so consecutively, till the whole five hatched in due course; and how after the little bee had finished her nest, laid and carefully secured the last egg with a wad of rose-leaves, and so completed her work in the great economy of nature, she died, leaving her family of five orphans, three sisters and two brothers, to fight the battle of life alone, and the surviving sisters—the brothers (males) always dying in the autumn of the year—to perform the same process another year. This led on to the hive bee, with the queen's ovipositing power, and the way in which the workers fed the queens, to stimulate them to deposit a greater number of eggs in the spring and summer, was first explained; then dealing with the tongue of the bee, he showed

its marvellous adaptability to its work of gathering the minute quantities of honey often found in flowers.

The lecturer then gave a more detailed account of the antenna of the bee, showing that it is the organ of communication. Passing on to speak of the legs of the bees and the pollen baskets, he lead up to the subject of insect fertilisation of flowers. This was illustrated with diagrams (as, in fact, were all the subjects dealt with), but in this section the Professor used the blackboard, and, by sketching various kinds of flowers and fruits, showed conclusively that it was an impossibility for many kinds of flowers to become fertile and produce seed except by insect fertilisation. Bees as fruit-producers was also dealt with, and this was, perhaps, the most interesting part of all the lecture, and it is satisfactory to bee-keepers to know that when their bees collect the honey from their neighbours' flowers, they are at the same time performing an indispensable service to the owner of the flowers, be he flori-, horti-, or agriculturist.

Votes of thanks to Prof. Cheshire and also to Mr. Martin Hope Sutton for free use of hall having been heartily accorded, the proceedings terminated. — W. Woodley, *World's End, Newbury.*

AN APIARIAN SOCIETY FOR MORAYSHIRE, N.B.

[908.] There being a few bee-keepers here desirous to start a Bee-keepers' Society for this district, and not knowing rightly how to proceed, we take the liberty of asking your advice. There is no society of the kind hereabout; so, if you could lay down in *Bee Journal* the rules required for the formation and guidance of an apiarian society, we will be very grateful to you. — Amateur, *Whitemire, Darnaway by Forres, N.B.*

[We cannot do better than recommend our correspondent to communicate with the Hon. Secretary of the Scottish Bee-keepers' Association, Sir Thos. D. Gibson-Carmichael, Bart., Chiefswood, Melrose, N.B., who will no doubt give better advice and information on the subject than we could offer.—Eds.]

HUMBUG IN THE BEE TRADE.

[909.] My attention is called to your editorial headed, 'Humbug in the Queen Trade,' p. 546 of the *British Bee Journal* for December 3rd, where you make charges that are not befitting an English gentleman, besides being misleading, and I consider many of your words are wanting in foundation. I may agree with Mr. Alley in many ways, but there are many more on which we do not agree. I have sometimes altered my views, but never because Mr. Alley or anybody else did so. Experimenting and exchanging notes as we do in a neighbourly way would perhaps lead you to think that 'one just echoes what the other says.' This might be said in connexion with any other apiarist with whom I make experiments. Perhaps if you, sir, were a neighbour of mine, and our experiments were carried on somewhat in company, it might look as if we, Cowan and Pratt, echoed each other's views.

In reference to the Carniolans, allow me to say that I have never claimed Yellow Carniolans to be the typical type. I have bred the Carniolans several seasons, using imported mothers from several prominent queen-breeders in Austria. I found it next to impossible to breed them so they would not show more or less yellow in their worker progeny, which was also the experience of all the Carniolan queen-breeders throughout this entire country. I have always liked the Carniolan race of bees, and was one of the prime movers in getting them introduced into America. My statements about them, as quoted by you in your article, were as I found the Carniolans to be in my yard from time to time. You are evidently ignorant of what the queen trade in America demands, or you would not have quoted from my advertisement to make the connecting link between what I had said and what you would have me say in your article. I had calls from all over the country for Golden Carniolan queens, and I commenced to breed them from one of Mr. Alley's queens to fill this demand. As far as I know, they have given entire satisfaction, and I shall continue to breed them so long as there is a demand for them. I believe the Golden Carniolans will breed solid yellow worker-bees in time, and that is what we are working for. We have found a solid ebony bee, and, until a better dark bee can be found, you may depend upon it, that I shall continue to rear Punic queens. Mr. Alley and myself are working together for the above results—solid yellow, solid jet. Is it not perfectly proper that we should?

I have never denounced any person without just cause to do so, and I believe I never touched upon a man's personal character. I have frequently criticised the ways and means of queen-breeding in the same manner that has been in vogue with all the publications in Amesica for years. As a queen-breeder I have been fairly successful, but I was not aware that I had attained my success at the expense of my brother breeders. I have always endeavoured to conduct my business in a fair and legitimate manner. My entire time is devoted to the rearing of queens for market, and I assure you, my dear sir, that it would not pay me to 'humbug' my customers, as you have charged me with doing. In England, I believe, bees are kept mostly for pleasure; in America, they are mainly kept for profit, and if my bees did not give entire satisfaction, my business would not very likely increase every year as it does.

I breed queens by the thousand, and I think I can tell what a bee is worth to me in a season's breeding. Do you suppose I would sell my best breeding queens for even $100 each when ten times that amount could be realised from

her daughters at a moderate price? I shall turn my attention to other strains, as I have done in the past, as soon as I find any that are better than the ones I already have, but, for the present, I shall bend my efforts to 'American Golden Carniolans' and Punic bees.

In 1889 I started the *Queen Breeder's Journal*, and after I had conducted it six months my health became poor, and I sold it to Messrs. Watkins, & McCullam, of Placerville, California, with the subscription list. You should have received the value of your 50 cents. I therefore enclose 25 cents in stamps, which I trust will settle your claim againstthe *Q. B. J.*—E. L. PRATT, *Beverly, Mass., U.S.A.*

[Accompanying the above was a short note, in which Mr. Pratt wrote as follows:—'Dear Sir,—I believe you are not aware that you have wronged me in your editorial in the December 3 number of your paper. I send here herewith an explanation of my position, and trust you will grant me space for the same.—E. L. PRATT.'

In the above Mr. Pratt verifies our contention, viz., that he and Mr. Alley 'are working together' for certain 'results.' And if the method of working is shown from their own words, who is wronged? In any case, we are quite content that our readers should form their own opinion in the matter. We would, however, like to offer a word of advice to Mr. Pratt, viz., that he will bestow a little more care or thought on his business transactions. The 25 cents referred to in the last sentence of the above letter was forwarded in American and Canadian postage stamps of odd sizes; they are of no use to us whatever, yet it cost us a surcharge of ten cents to get possession of them, the postage paid thereon being obviously insufficient.—EDS.]

DO BEES PREPARE A HOME BEFORE SWARMING?

[910.] The following extract from a paper read at the annual general meeting of the Jedburgh and District Bee-keepers' Association (N.B.), may be of some interest as bearing upon this question.

'*Swarming.*—When the number of bees in the hive increases so that space becomes limited, then preparations are made for swarming. It can very appropriately be compared to emigration. When population increases to such an extent that there would be a difficulty in providing food for all in the old home, then numbers depart to seek their fortunes and a home elsewhere. So with bees. The old queen leads off the swarm, but before doing so, the bees have made preparations for filling her place. Royal cells have been constructed, and a young queen is in course of being reared. The queen is followed by a large number of bees, and she usually settles upon some bush or tree at a short distance. That the bees have looked out for, and fixed upon, some place to make their abode, I have not the least doubt. I happened to have a skep standing ready filled with comb, into which I intended putting a swarm. For some days I noticed a number of bees working about the skep, and tried to discover what they were about. I could not find that they were taking anything away, though they seemed busily engaged cleaning out the house. What surprised me most was that several of them seemed to take a proprietary right, and tried to prevent others from entering. Each night every bee left. I happened to be from home one day, and, as usual, on coming home at night, first of all went to the bees, and you may judge of my surprise when I found this skep fully occupied. On entering the house I was informed that a swarm of bees from my neighbour's garden had taken possession. What was most wonderful, however, was that this same swarm had been hived two days previous, and had built a piece of comb, and stored some honey in the skep they left. That they were the same bees that had visited and taken possession of my skep was beyond doubt. Their flight was easily followed, and, moreover, they were crossed Ligurians, of which variety there were no others for miles around. This, no doubt, accounts for swarms leaving after they have been hived and apparently settled, of which unwelcome experience I have also had a share.'—T. M. C.

LOSS OF HONEY IN TRANSIT.

[911.] Concerning the bottle of honey purloined from my exhibit *en route* to Isliugton, you may be glad to know I have recovered from the Railway Company my entrance fees, railway carriage, cost of honey, and 5*s.*, value of least prize in the class; in all 16*s.* 5*d.* I am much obliged for your aid in the matter.—JNO. PALMER.

BERKSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of this Association took place at the Abbey Hall, Reading, on Wednesday, 13th inst. Mr. W. Woodley presided. The President and Vice-Presidents were re-elected, and the following added to the list of Vice-Presidents:—Miss Noble, Park Place; Mr. Martin J. Sutton; and Mr. Wilberforce Bryant, of Stoke Park, Slough. Miss E. Carr-Smith was elected Secretary; Mr. A. D. Woodley, Assistant Secretary; Mr. J. Simonds, Hon. Treasurer; whilst the following were chosen on the Central Council: Messrs. A. L. Cooper, F. Cooksey, Paxman, and H. Callas (Reading district); Rev. D. O. Harrington, Miss Benham, Miss G. Short, Mr. A. Goddard, Mr. L. Inwood, Sergt. Dance, Miss Head, Mr. W. Alexander, Mr. W. Woodley, Mr. G. T. Killick, and Mr. J. S. Griffin. Messrs. A. L. Cooper and W. Woodley were elected as representatives to the British Bee-keepers' Association.

Hearty thanks to Miss Carr-Smith for her efforts in collecting about 20*l.* towards clearing off the deficit were carried unanimously, as were also similar votes to Messrs. Sutton & Sons for the use of the hall, and Mr. F. Cooksey for the use of his room.

The annual report and balance-sheet, which were of an encouraging nature, were then submitted by Mr. Cooper, and approved, and votes of thanks to the retiring Secretary (Mr. Cooper) and the Technical Education Committee concluded the business.

An adjournment was then made to the large hall, where an interesting and instructive lecture was given by Prof. F. R. Cheshire, F.L.S., F.R.M.S., on 'Bees, Honey, and Flowers,' illustrated by diagrams and views. Mr. A. L. Cooper presided.

A large collection of honey and hive appliances were exhibited by Mr. T. A. Flood, and proved to be a great attraction.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 5th inst. Present: the Rev. P. Kavanagh (in the chair), the Rev. Canon Sadleir, the Rev. R. Seymour, Mr. Millner, Mr. O'Bryen, and Mr. Chenevix, hon. secretary. It was resolved that application should be made to the National Board of Education to put a treatise on bee-keeping on their list of books, but the question of what treatise should be recommended was left for further consideration.

HONEY SWEETMEATS.

The use of honey in the manufacture of sweetmeats is evidently becoming popular just now, several firms giving prominence to goods in which honey is used. We have received from Mr. H. Faulder, of Stockport, samples of 'Honey Creams' and of 'Honey Scotch'—the latter, by the way, not a misprint for Scotch honey—both of which are very nice, the former being especially attractive in appearance and possessing a full flavour of genuine honey. It may interest bee-keepers to know that Mr. Faulder is prepared to purchase a ton of British honey of good strong flavour for use in his business if it can be had at a moderate price. Another firm, Messrs. E. Pullum & Co., of Barnsbury, London, also forward samples of their make of 'Honey Scotch' which, like the first, will just meet the taste of young folks.

Queries and Replies.

[475.] *Changing Hives.*—I have kept two hives of bees for four years with but poor success. I have no doubt the cause has been my own bad management; one of my hives is standard-frame size, the other is not, and the frames in both hives have been badly divided, and combs are very unevenly wrought, but movable; the bees are meantime reduced to six frames in each hive. I have been a reader of your valuable journal since October last, and also got your *Bee-keepers' Guide-book*, which I have carefully gone over, and think I could now do better. I have got two new hives which I mean to stock this season. I would feel obliged if you would advise me how and when would be the best way to get out these unevenly-wrought combs. I would like to get the bees out of the hive not standard-frame size, so that I might get it altered to suit standard frames.—W. Winter, *Forgandenny, N.B., Jan. 18th*, 1892.

Reply.—The safest time to transfer the combs and bees to the new hives would be when warm, settled weather comes in spring. But if the combs are unevenly wrought, as stated, why seek to transfer them at all? We would much prefer to let the bees swarm, and have new, well-wrought combs in the new hives. You will find full instructions for transferring in *Guide-book*.

Echoes from the Hives.

Betley, near Crewe.—My average last season (for six hives which did not swarm) was about sixty pounds of super honey without touching brood chamber. I have not included hives which swarmed. I do not think correct averages of season can be got in that way.—F. W. P.

Darnaway, by Forres, Morayshire, N.B.—It is not much use talking about bees just now, with eighteen inches of snow on the ground, but we will keep up our hearts yet, if we can but get our *Bee Journal*. Last week's number has not yet reached this far-away spot, but hope to get it this week. Wishing a happy new year to all.—Amateur.

INTELLECT AND INSTINCT OF BEES.

My first acquaintance with bees began when I was a little boy. The old log school-house where I learned to read and to spell was on the edge of a wood. The cleared ground near the wood was in those days well grown over with thistles, and when they were in full blossom large numbers of bumble-bees collected on them to gather honey, which the greater length of their proboscises than that of the honey-bee enabled them to do.

I took my first lesson in entomology, as far as I can remember, in the study of these bees. One day a number of the school-boys indulged in a common sport of seizing bees by both wings and holding them without being stung.

Naturally I tried the experiment, but secured only one wing, which left the bee free to turn over and thrust its sting deep into my finger. It was my first experience of this kind, and the pain was very intense; but not caring to be laughed at by the other boys, I took not the slightest notice of it.

I have since thought that the control over the feelings which children often exhibit on account of their pride is a valuable discipline preparatory to the greater self-control required in maturer years. Be this as it may, I have ever since had a profound respect for every kind of bee, and cultivated their friendship whenever I have had an opportunity.

I have never been able to examine their nervous system as a phrenologist does the brain of man; but under the microscope I have convinced myself that it has a very fine one, that its brain cells or ganglions are of the same kind as those of man, and that in proportion to its weight it has as much nervous tissue, if not more, as human beings.

I propose to mention some of their intellectual characteristics. In the first place the bee has an excellent memory, especially of locality. You may carry them miles away from home, and the greater part of them will find their way back. This experiment has been tried on the bumble-bee. A considerable number were taken three miles from their home, and all came back; then another lot were taken six miles, and most of them returned, after which they were taken nine miles away, and even then a few found their way to their nests; and it is more than probable that those which failed to do so may not have had physical strength for so long a flight, or possibly they were young bees without experience.

This memory of places must be of the highest usefulness to the bee, obliged as it is to go far from home to gather sufficient food for its needs, and the faculty has without doubt been developed by culture, and transmitted from one generation to another for a great period of time.

The memory of the bee for the particular plants which furnish it with honey is also very highly developed. I have observed how quickly they recognise those plants which serve their purpose from those which will not, and how little time they waste in trying to gather honey where none is to be found.

The bee has a very excellent knowledge of dietetics so far as the subject can be of service to it; a knowledge which could only have been acquired by a high order of intellect, or an intelligence quick to take advantage of any experience which had accidentally proved serviceable during any period of its existence.

This is shown by its conduct in the employment of food for different purposes. A hive of bees is composed of three kinds—drones, or males, the queen-bee, and female workers, which are all undeveloped queens. It is by the application of their knowledge of the effects of food on development that they are able to produce workers or queens as they wish. A worker is the result of insufficient nourishment. The larvæ are fed on food which only develops workers. If during the first eight days of the life of a larva it is fed on royal food, the reproductive organs and instincts become fully developed, and the larva becomes a queen.

Royal food is a highly nitrogenous diet, composed of the pollen of flowers. The insufficient nutrition which develops workers, but not the reproductive instincts, is less highly nitrogenous—indeed is largely carbonaceous.

In case the queen dies, or is lost, the workers at once set about providing for a new queen by feeding a larva at the proper time with this highly nitrogenous food.

I think this compels us to believe that they do it consciously, and that the colony of bees also rear workers consciously, for it is only by an abundance of workers that the colony can exist. How can they know, except by highly developed intellect and inherited experience, that one kind of food will produce one effect, and another kind another?

There is a remarkable difference in the mental traits of queens and workers. The queen knows that it is not well to lay eggs when there are not workers enough to feed and care for them. This is a most *reasonable* procedure, and one which human beings might study to advantage.

She is also aware of the fact that it is not well to have too large a number of drones, who eat honey and do no work, and so she produces them at will—by laying unfructified eggs to the extent to which drones may be required, and no more.

That bees reflect and adapt their conduct to their requirements is, it seems to me, evident from the fact that when carried to countries where they find supplies of food all the year round, they cease to store it up. They do not do this immediately, but only after they have learned that it is unnecessary.—M. L. Holbrook.

(To be continued.)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

John Q.—We shall not overlook the point named in your favour of the 18th inst.

Woldul.—*Feeding Bees.*—No food is so suitable at this season as the soft candy you mention.

A Disappointed Beginner (Shropshire).—*Bees refusing to enter Section Racks.*—You must not take the 'persistent refusal' of the bees to enter supers so much to heart, or you will never make a good bee-keeper. Many experienced hands had the same disappointment last year, and are content to wait another season for better luck.

SUPPLEMENT TO THE BRITISH BEE JOURNAL.

No. 500. Vol. XX.] JANUARY 21, 1892. [N.S. 108.

'THE BRITISH BEE JOURNAL' AND 'THE JOURNAL OF HORTICULTURE.'

We now publish the correspondence that has taken place with reference to the refusal of Dr. Hogg, the editor of the *Journal of Horticulture*, to publish the 'Explanation' which appeared on page 582 of the *British Bee Journal* of the 24th ult. in his paper, and also with reference to the statement on page 571 of the *Journal of Horticulture* of the 31st ult., that the publication of the explanation by us was 'premature.' With the whole of the correspondence before them, we will leave our readers to form their own judgment as to the course Dr. Hogg has seen fit to pursue and as to whether such publication was 'premature.'

31 Belsize Park Gardens, Hampstead, N.W.
December 7th, 1891.

Dear Sir,—I send you an explanation to your 'explanation' on page 485 of *Journal of Horticulture*, which I hope you will give the same publicity to as you have to yours, and regret that you should have taken this opportunity of doing your contemporaries an injustice, as you are quite aware that while Mr. Carr conducts the *Record*, I am entirely responsible for the *British Bee Journal*.

I must also call your attention to your last paragraph—'and, we would add, our long experience has led us to regard him as an accurate correspondent'—which I think you should have an opportunity of explaining, as it certainly implies that the libellous charges made by Mr. Hewitt and printed in your *Journal* of September 3rd are correct.

Your apology was inserted in a friendly spirit and without comment on my part, and I hope you will be able to show that this paragraph was not intentionally inserted.—Yours truly,

Dr. R. Hogg. Thos. Wm. Cowan.

With this letter was forwarded Mr. Cowan's explanation, which will be found on page 582 *B.B.J.* for December 24th, and which it is not necessary to reproduce again.

31 Belsize Park Gardens, Hampstead, N.W.
December 8th, 1891.

Dear Sir,—To my letter to you and explanation of yesterday I wish to add that I have neither seen nor consulted Mr. Carr upon the subject.—Yours truly, Thos. Wm. Cowan.

Dr. R. Hogg.

Journal of Horticulture, 171 Fleet Street, London, E.C., *December 9th*, 1891.

Dear Sir,—In reply to yours of the 7th inst., I do not see how you can dissociate yourself from the responsibility of what appears in the *Bee-keepers' Record*, seeing your name is coupled with that of Mr. Carr as joint editor on the title-page of the wrapper.

It is true that Mr. Carr is announced as being conductor, but, besides being co-editor and conductor, he is also your servant, being, as you informed me, in your 'employ.'

I am ready to publish your communication of the 7th inst. whenever you publish in the *British Bee Journal* and the *Bee-keepers' Record* my 'statement,' which was printed in the *Journal of Horticulture* of the 3rd inst.

In justice to me and to your readers, that 'statement' ought to appear, and then your article would naturally follow as a rejoinder.—

Yours truly, Robert Hogg.

T. W. Cowan, Esq.

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31 Belsize Park Gardens, Hampstead, N.W.
December 12th, 1891.

Dr. R. Hogg.

Dear Sir,—In reply to your letter of the 9th inst. I shall take care that the readers of *British Bee Journal* and *Record* have full justice done them.

You were two and a half months before you made any apology for the libels you published, and then it was done only after I had put the matter in my solicitor's hands, and you were threatened with an action.

When you have done justice to me by inserting my 'explanation,' and give me a satisfactory explanation of the last paragraph of your statement on page 485 of *J. of H.*, I shall be prepared to do you justice. You have returned evil for good, and have taken advantage of an unintention error to repeat the libel, and you are perfectly aware that by your inferring in the last paragraph that the charges made by J. Hewitt are true, that the libel is aggravated. Unless, therefore, my explanation appears in the next issue of *Journal of Horticulture*, and you give me a satisfactory explanation of the paragraph alluded to, I shall take such steps as I may be advised, and I must ask you to furnish me with the name of your solicitor, who will accept a writ on your behalf.—Yours truly,

T. W. Cowan.

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11 Argyll Street, Regent Street, London, W.
December 16th, 1891.

Dear Sir,—Dr. Hogg has consulted us with reference to your letter of the 13th inst., and he has placed all the correspondence, &c., in our hands.

The earlier correspondence shows that no one could have been actuated by more friendly feelings than Dr. Hogg, and he inserted the notice in the *Journal of Horticulture* on the faith of your statements, and, in answer to the remarks in your letter you will, we think, admit that Dr. Hogg has himself some ground of complaint, inasmuch as by inserting the notice at your request, he has been of necessity obliged to make his subsequent explanation. You will also admit that you must accept the responsibility of what appears in your *Journal* just in the same way as you seek to make Dr. Hogg responsible for the statements appearing in his journal.

The matter would have dropped entirely but for the error for which you are thus responsible, and we have accordingly advised Dr. Hogg that the suggestion he made, that your explanation should be published in the *Journal of Horticul-*

ture after his own explanation had been published in the *Bee-keepers' Journal* and *Record*, was a very proper one, and in reply to your letter of the 12th inst., we can only repeat such offer, but, if you prefer to do so, you can, while printing Dr. Hogg's explanation in your papers, print underneath it your own explanation, stating that by arrangement with Dr. Hogg such explanation will be printed in the *Journal of Horticulture*.

Mr. Hewitt is also to be considered, and as an error has been allowed to creep in through no fault of our client, Dr. Hogg cannot do more than we have above suggested.—We are, yours faithfully, WEBB, BURT, & NICHOLS.

T. W. COWAN, Esq.,
31 Belsize Park Gardens, N.W.

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23 Birchin Lane, Cornhill, London, E.C.
December 18*th*, 1891.

DEAR SIRS,—I have seen Mr. Cowan with reference to your letter to him of the 16th inst. I have advised him to carry out the suggestion made by Dr. Hogg, viz., to insert Dr. Hogg's 'Explanation,' and print underneath it my client's own explanation. This will be printed in the *Record* for January and in next week's number of the *British Bee Journal*, and I would suggest that it should be inserted in next week's *Journal of Horticulture*. Will you ask your client to see that this is done? A printer's proof of the explanation, as it will appear in my client's paper, will be forwarded to Dr. Hogg in due course.—Yours truly, EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS, Solicitors,
11 Argyll Street, Regent Street.

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23 Birchin Lane, Cornhill, London, E.C.
December 19*th*, 1891.

DEAR SIRS,—With reference to my letter of yesterday, I now enclose a proof of the article which will appear in the *British Bee Journal* and *Record* next Thursday, and I would ask you to see that the 'Explanation,' which my client, Mr. Cowan, sent Dr. Hogg on the 7th December, shall appear in the next number of the *Journal of Horticulture*, and at the same time I think Dr. Hogg should give an explanation, and withdraw the insinuation contained in the last paragraph of the explanation that has already appeared in the *Journal of Horticulture* (p. 485).—Yours truly, EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS.

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11 Argyll Street, Regent Street, W.
December 23*rd*, 1891.

DR. HOGG *and* MR. COWAN.

DEAR SIR,—Referring to our interview with you this morning, with reference to this matter, we have thought it better to reduce our statement into writing. Your letter of the 19th inst. only reached us on Monday morning, the 21st, and we took the earliest opportunity of seeing our client upon same. Dr. Hogg has considered your letter, and has now carefully perused the explanation proposed to be inserted by Mr. Cowan. He cannot agree to the last clause of your letter, viz., to insert any additional explanation. He feels aggrieved that he has been already led, through no fault of his, into an error, to which Mr. Hewitt might reasonably take exception, and he cannot agree to publish the explanation in the form you sent it. We have made certain alterations in the proof print, and our client will be prepared to publish it in the form as altered after it has been published in your client's *Journal*.

At our interview this morning we explained why the alterations must be made, and, with reference to the last paragraph, you will appreciate our contention that, since it has been sought already to make Dr. Hogg responsible for the letter of one correspondent, care should be taken not to publish any fresh matter which another party might complain of, and the words struck out in paragraph five of Mr. Cowan's explanation are very objectionable, and cannot be allowed. Should your client publish his explanation in the form it originally stood in the proof, he must do it at his own risk, and Dr. Hogg cannot bind himself to publish all or any part of it in his own paper.

In conclusion we would point out again that Dr. Hogg has never been desirous of quarrelling with your client, and we hope your client will see his way to make the suggested alterations, and thus save further friction.—Yours faithfully, WEBB, BURT, & NICHOLS.

E. ELLIS, Esq.

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23 Birchin Lane, Cornhill, London, E.C.
December 23*rd*, 1891.

MR. COWAN *and* DR. HOGG.

DEAR SIRS,—I have seen my client with reference to what passed between us to-day, and also with reference to your letter subsequently received.

The *British Bee Journal* for this week is now printed, and is being sent to customers, consequently it was impossible that any alteration could be made in the explanation. I would remind you that the explanation proposed to be inserted by Mr. Cowan was sent to Dr. Hogg on the 7th of December, and that you wrote Mr. Cowan on the 16th in the following terms:—'We can only repeat such offer' (meaning the offer made by Dr. Hogg that Mr. Cowan's explanation should be published in the *Journal of Horticulture*), 'but if you prefer to do so you can, while printing Dr. Hogg's explanation in your paper, print underneath it your own explanation, stating that by arrangement with Dr. Hogg such explanation will be printed in the *Journal of Horticulture*.' Acting on this suggestion Mr. Cowan has inserted the explanation in the *British Bee Journal*, and now calls upon Dr. Hogg to insert it in the *Journal of Horticulture* as agreed. I have every wish to avoid further friction in this matter, and so has my client—at the same time what has been agreed on should be honourably carried out.—Yours faithfully, EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS.

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11 Argyll Street, Regent Street, London, W.
December 24*th*, 1891.

MR. COWAN *and* DR. HOGG.

DEAR SIR,—We have received your letter of yesterday's date. In your letter of the 18th inst. you say 'a printer's proof of the explanation as it will appear in my client's paper will be forwarded to Dr. Hogg in due course,' and your client had no right whatever to insert the explanation in the way he has done until such proof print had been approved.

There is no time to take Dr. Hogg's instructions this side of Christmas, but we feel no doubt whatever that he will absolutely refuse to publish your client's statement in the form in which you say it has been printed; and we shall have to advise him that Mr. Cowan is responsible for the statements that he has seen fit to publish.—Yours faithfully,

WEBB, BURT & NICHOLS.

E. ELLIS, Esq., 23 Birchin Lane, E.C.

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11 Argyll Street, Regent Street, London, W.
December 29th, 1891.

DR. HOGG *and* MR. COWAN.

DEAR SIR,—We have seen our client with reference to your letter. We can only repeat that under the circumstances (which we need not recapitulate here, except, among other things, that there was no final agreement, and the proof print had in no way been approved) the insertion of the statement in the form your client has seen fit to print it was not authorised or sanctioned by Dr. Hogg; and we are instructed to say that he declines to print it in his *Journal*, but he intends in the next issue of the *Journal of Horticulture* to insert a short statement to the effect that the statement in your client's *Journal* was prematurely published.

We are further advised that Dr. Hogg has good ground of complaint against your client in respect of the statements contained in his explanation; but what steps (if any) he may take with reference to the matter may depend upon whether Mr. Cowan is willing to make him some sort of apology, and this letter is written entirely without prejudice.—Yours faithfully,

WEBB, BURT, & NICHOLS.

E. ELLIS, Esq., 23 Birchin Lane, E.C.

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23 Birchin Lane, Cornhill, London, E.C.
December 29th, 1891.

MR. COWAN *and* DR. HOGG.

DEAR SIRS,—I have received your letters of the 24th and 29th. I entirely disagree with the view you take as to the agreement to publish the 'Explanation.' My client did not ask Dr. Hogg to publish the statement as it appeared in last week's *British Bee Journal*; what he demanded was that the 'Explanation' which was sent to Dr. Hogg on December 7th, and which he stated on December 9th he was ready to publish, should be published. If Dr. Hogg inserts a statement in the next *Journal of Horticulture* to the effect that the statement in my client's *Journal* was prematurely published, my client will consider it necessary to publish the whole of the correspondence, so that his readers may judge for themselves if such publication was premature. The last paragraph of your letter of to-day's date scarcely needs comment, as Dr. Hogg had my client's explanation on December 7th, and was ready to publish it, and you had it on December 16th, and you also suggested that it should be published.—Yours, truly,

EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS.

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23 Birchin Lane, Cornhill, London, E.C.
January 4th, 1892.

MR. COWAN *and* DR. HOGG.

DEAR SIRS,—I have seen my client with reference to the 'Explanation' and head-note printed in the *Journal of Horticulture* for December 31st.

If you will refer to the correspondence you will see that the proof print was *not* sent for your approval, nor was the proof returned on the *21st*.

My client is sending a 'protest' to Dr. Hogg, complaining of these inaccuracies, and demanding the insertion of the 'Explanation' as sent to Dr. Hogg on December 7th in the *Journal of Horticulture*.—Yours truly,

EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS.

'A PROTEST.

'*To the Editor of the* JOURNAL OF HORTICULTURE.

'In justice to your readers you should correct the inaccuracies in your head-note on page 571 of *Journal of Horticulture*.

'My explanation of the error in your apology, as printed in the *British Bee Journal* on page 582, was sent to you on the 7th December, and in your letter to me of 9th December you consented to publish it. Your lawyers also, on the 16th December, suggested that it should be published in the *B. B. J.* and *Record* with your explanation, "stating that by arrangement with Dr. Hogg such explanation will be printed in the *Journal of Horticulture*." This I decided to do in the next number of *British Bee Journal* and *Record*. A proof print *was not sent for your approval*, but as it was going to appear in next number of *B. B. J.* and *Record*. There was no question raised by you as to the wording until after it had been printed in the above journals. The proof was *not* returned, as you state, on the 21st December; but your solicitors brought it to my solicitor on Wednesday, the 23rd December, after the *Record* had been already distributed, and while the *British Bee Journal* was being sent out.

'I must protest against your printing the explanation in the form in which you have done it in the *Journal of Horticulture*, and I repudiate it entirely. The correct version appears only in the *B. B. J.* and *Record*. You had no right to alter the wording of my letter, and print it differently to what it was sent you, and to which you had consented on 9th December, more particularly as through my solicitor you were called upon to print it in the *Journal of Horticulture* in the form agreed upon by you and your solicitors (see Mr. Ellis's letter of the 23rd December to your solicitors). You were not so particular about publishing a libel when it concerned the character of your contemporaries, and at your request I inserted this *without any alteration* in *British Bee Journal* and *Record*. When I had the interview with you on the 18th September I told you that I had written the reply to "Inquirer" myself, and yet, knowing this, you repeated the accusation on page 533 of *Journal of Horticulture* by saying, "the same Editors, in reply to 'Inquirer,' say," &c. You profess your columns to be freely open to corrections (see your letter to me of October 23rd); yet, when I have pointed out some of the many inaccuracies of your "accurate correspondent" that have appeared in your own paper, you do not print them. Is this fair treatment? Comment is not necessary.

'I now invite you to give your readers a correct statement of facts, and to print this protest and my explanation in the form in which it has appeared in *British Bee Journal*, and as agreed to by you and your solicitors, in the next number of the *Journal of Horticulture*. If this is not done I shall feel it my duty to publish the correspondence, including this protest, in the *British Bee*

Journal and *Record*, so that our readers may form their own judgment whether the explanation was prematurely published. I also invite you, in justice to those of your readers who may not be acquainted with the *British Bee Journal* and *Record*, to inform them that, besides being edited by T. W. Cowan and W. Broughton Carr, on the title-page of *British Bee Journal* it is annonnced that it is conducted by T. W. Cowan, and on that of the *Record* that it is conducted by W. Broughton Carr.

'THOMAS WILLIAM COWAN,
'*Editor of* "*British Bee Journal.*"
'*January 4th*, 1892.'

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11 Argyll Street, Regent Street, London, W.
January 8th, 1892.

DEAR SIR,—We have seen Dr. Hogg with reference to your letter to us of the 4th inst., and your client's protest of the same date.

Dr. Hogg declines to insert the explanation in the *Journal of Horticulture* in the form your client has printed it in his paper.

We cannot prevent your client publishing anything he likes in his own paper, but all that we ask for is that if the correspondence is published your client will also publish this letter, as we wish it to appear that our client distinctly adheres to his contention that the publication of the article on page 582 of *British Bee Journal* of the 24th ult., headed 'An Explanation,' was premature for the following reasons:—

1. Any offer made by Dr. Hogg on the 7th December was not accepted by Mr. Cowan, and there was therefore no arrangement between the parties at that time.

2. In reply to our letter of the 16th ult. you wrote to us on the 18th ult.: 'A printer's proof of the explanation, as it will appear in my client's paper, will be forwarded to Dr. Hogg in due course;' and on the 21st ult. we received this proof print, which contained a heading with new matter in it. The proof print was most certainly sent to our client for approval, and it was returned with certain alterations on the 23rd ult., with a letter written by us objecting, on behalf of Dr. Hogg, to insert it in his paper in the form originally drawn by your client.

3. In addition to the above, your letter of the 19th ult., received by us on the 21st ult., asked that Dr. Hogg, besides inserting the statement, should give some further explanation, and this in our letter of the 23rd ult. (being the letter returning the proof) Dr. Hogg refused to do.

Therefore, on the 23rd, when we replied to your letter, there was actually nothing finally arranged between the parties, and in our opinion Dr. Hogg may well feel aggrieved that your client should have seen fit to publish the statement in the form referred to. We repeat, therefore, that such publication was premature.—Yours faithfully,

WEBB, BURT, & NICHOLS.

E. ELLIS, Esq., 23 Birchin Lane, E.C.

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23 Birchin Lane, Cornhill, London, E.C.
January 14th, 1892.

MR. COWAN *and* DR. HOGG.

DEAR SIRS,—I have received your letter of the 8th inst., and note that Dr. Hogg declines to insert the explanation in the *Journal of Horticulture*: I also infer from your letter that he declines to correct the inaccuracies which occurred in the head-note to the explanation printed on page 571 of the *Journal of Horticulture* of the 31st ult., and which are specified in the 'Protest' sent to your client on the 4th inst., although by your letter you admit that the statement that the proof print was returned on the *21st* was inaccurate.

With regard to the reasons you give for contending that the publication of the explanation on page 582 of the *British Bee Journal* of the 24th ult. was premature, I would point out—

1. That my letter of the 18th ult. was an acceptance of Dr. Hogg's offer contained in his letter of the 9th ult.

2. The 'Explanation' in the printer's proof was identical with that Dr. Hogg had already received, and which he stated he was ready to publish, and which you in your letter of the 16th ult. suggested should be published. There was therefore no occasion to send you the proof for approval, and it was most certainly *not* sent for that purpose. The heading to the explanation was merely an expression of regret on the part of my client for the unintentional error which had crept into the statement on page 172 of the *Record*, and was in no sense submitted to you for approval. The words objected to by you in that heading were words that Dr. Hogg had himself used in his correspondence with my client, who was therefore quite justified in using them.

3. In my letter of the 19th ult., I only suggested, but did not insist, that Dr. Hogg should make some further explanation, and this did not in any way effect the 'explanation' which he had already stated he was ready to publish.

Both legally and morally I contend that your client was bound to insert the explanation as it originally stood, and with the whole of the facts before them the readers of the *British Bee Journal* and *Record* can form their own judgment as to the course he has seen fit to pursue, and also as to whether the publication by my client of the article on page 582 of the *British Bee Journal* of the 24th ult. was premature. It appears to me to be idle for you to contend that what might have been published on the 17th ult. was premature when published on the 24th ult., and in my opinion it will be considered that Mr. Cowan is the aggrieved party and not Dr. Hogg.

Your letter of the 8th inst. and this reply will be published with the rest of the correspondence.—Yours faithfully, EDWIN ELLIS.

Messrs. WEBB, BURT, & NICHOLS.

Since the last of the above letters was written, our attention has been called to the article on page 31 of the *Journal of Horticulture* for January 14th, 1892, headed 'Mr. T. W. Cowan's Inaccuracies.' We commend that article to the attention of our readers, and would ask them to note its tone and very evident bias. *Litera scripta manet.*

LONDON: Printed by STRANGEWAYS AND SONS, Tower Street, Cambridge Circus, W.C.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 501. Vol. XX. N.S. 109.] JANUARY 28, 1892. [*Published Weekly.*

Editorial, Notices, &c.

TECHNICAL EDUCATION.

There is in the minds of those who are at the present time actively interesting themselves in the work of imparting instruction in bee-keeping by means of County Council grants a considerable amount of uncertainty, and not a little divergence of opinion, as to the best means of securing permanent benefit for those persons on whose behalf the public funds are being expended. 'Grants in aid of technical education' are, we believe, the official terms under which financial assistance is given to the Bee Associations favoured, and it is to the consideration of these terms and what is meant by them that we here invite attention.

What the Government has done is to authorise the expenditure of certain sums by County Councils for the furtherance and spread of technical education in arts, science, handicrafts, and home occupations—a calling so humble as that of 'hedging and ditching,' and the homely but useful art of 'plain cooking,' not being considered beneath the scope of the Act. Our present business, however, is necessarily limited to the consideration of cases where more or less liberal sums of money have been voted for instruction in bee-keeping, and where the expending of these sums is left in the hands of the Executive Committees of the respective Associations which have obtained grants. If a regular and uniform system were laid down and followed, and a Government scheme of procedure issued for general guidance, there would be no confusion of ideas as to the administration of the funds referred to; but it—unfortunately, perhaps—so happens that an almost entire discretion is given to County Councils as to the manner in which the funds are to be dealt with. Now, as there seems to be quite a marked difference of opinion on the subject in the several counties, the natural result is that each Association has its work cut out for it according to the views of the 'Technical Instruction Committee' of the particular County Council with which it has to deal. In this way we are given to understand that one Association is limited, for the first year, to the delivery of a series of lectures throughout the county with the object of arousing public interest in bee-keeping, preparatory, as we may suppose, to the establishment of classes for technical instruction another year. In a second case, an Association has its labours defined and arranged on quite opposite lines; the foundation of classes being considered of primary importance, together with a course of lectures, and practical as well as technical instruction in bee-keeping by means of open-air demonstrations. Lecturing alone is here considered as of small value. In a third case, we learn of Bee Associations being left to pursue the work of giving technical instruction in their own way; no limit or 'conditions' being imposed by the Council making the grant.

With all this variety of detail, arising from the varying standpoints from which the subject is viewed, it will be seen how difficult it will be for our Bee Associations to perform the task undertaken in a satisfactory manner until such time as things have been got into proper working order.

Very similar difficulties arise with regard to the preparation of a syllabus which it has been proposed to have framed for the use and assistance of Bee Associations and lecturers who may desire some guidance as to the way the work of imparting technical education is to be carried out. The Committee of the B.B.K.A. were asked to draw up a syllabus such as they would suggest for the purpose, and a sub-committee was appointed to consider the matter. This sub-committee finally decided that, in view of the existing circumstances, it would be best to recommend a form of syllabus which

would cover the whole ground of the science of bee-keeping, arranged under a series of heads, such as have been used on the Continent by Professors of Bee-keeping appointed by Government for years past.

It was judged that if a complete and carefully arranged syllabus, outlining a series of lessons or lectures, were attempted to be laid down, it would not only be impossible in it to meet the requirements of every case, but that any attempt to impose a hard-and-fast line on lecturers, or those employing them, would be sure to cause friction in carrying out details which might not be in accordance with their individual views. The Committee therefore prepared a syllabus embracing the whole subject under a few heads, and which allowed lecturers a perfectly free hand, while containing material enough to meet the requirements of each and every case.

After what has been said, it will be readily conjectured that the work of the sub-committee did not meet with unanimous approval, and this is why we again invite those concerned to consider the subject in its various aspects, so that when next the matter comes up for discussion, as we suppose it will at the annual meeting of the B. B. K. A. next month, it may be thoroughly well threshed out, and a satisfactory decision arrived at.

MR. J. HEWITT, OTHERWISE 'A HALLAMSHIRE BEE-KEEPER.'

We last week alluded to an article in *Journal of Horticulture*, on page 31 for January 14th. The Editor is good enough in that article to inform us and his readers that he has asked 'A H. B. K.' to allow him to publish some evidence that the Editor believes he can supply, but we quote the Editor's own words: 'He informs us that he is taking action against Messrs. Cowan and Carr for libel, and that it would be best to produce the evidence in court, along with the other evidence.' We wish Mr. Hewitt to understand that we intend, in the interest of bee-keepers and bee-keeping, to defend any action that he may choose to bring against us. In the meantime we must thank those of our friends who have supplied us with original documents.

SCOTTISH B. K. ASSOCIATION.

We are requested to intimate that Mr. John Wishart, 5 Market Place, Melrose, N.B., will now be associated in the secretarial duties with Sir Thomas D. Gibson-Carmichael, Bart., of Castlecraig, the founder of the Association, and that all future communications should be addressed to Mr. Wishart. He invites all interested in apiculture, especially those resident in Scotland, to become members of the Association, and he will be very pleased to give information regarding the benefits to be derived from membership or the affiliation of local societies.

CHICAGO EXHIBITION, 1893.

Under date of the 27th August, 1891, Her Majesty was pleased to issue a Commission to the Council of the Society of Arts, authorising them to act as Commissioners for the Universal Exhibition, which, pursuant to an Act of Congress, and in accordance with a Proclamation made by the President of the United States of America, will be held at Chicago from May 1st to October 30th, 1893.

The Royal Commission are now prepared to receive application from artists, manufacturers, and others desirous of taking part in the Exhibition, to afford them all necessary information, and to offer them all available facilities which they may desire for this purpose.

Such applications must be made upon forms to be obtained from the Secretary of the Commission at their offices, Society of Arts, John Street, Adelphi, London, W.C. They must be be sent in, properly filled up, not later than Feb. 29th, 1892, addressed to the Secretary.

A charge will be made to each exhibitor, based on the amount of space occupied, and calculated on the following scale:—

	Per sq. ft.—s.	d.
For spaces not exceeding 100 sq. ft.	5	0
For spaces exceeding 100 sq. ft. and not exceeding 200 sq. ft.	4	6
For spaces exceeding 200 sq. ft. and not exceeding 300 sq. ft.	4	0
For spaces exceeding 300 sq. ft. and not exceeding 500 sq. ft.	3	6

The Exhibition is situated in Jackson Park, within the southern limits of the city of Chicago. The principal buildings are devoted to the following main divisions:—(1) Fine Arts; (2) Manufactures and Liberal Arts; (3) Agriculture; (4) Machinery; (5) Electricity; (6) Mines; (7) Transportation; (8) Horticulture. In all these space has been allotted to Great Britain, thought it is expected that the principal British Court will be that in the building of Manufactures and Liberal Arts, since the privilege has been conceded to this country of massing all or most of its exhibits, together should such a course prove desirable.

Exhibitors' goods will be transmitted direct in bond to Chicago, where the usual Customs examination will be made. Goods for exhibition only will not be liable to duty, but on goods sold the usual rates have to be paid.

The American railroad companies propose to carry goods back from the Exhibition free, charging the usual rates for the outgoing journey. These rates, it may be noted, are low in comparison with those usual in European countries. It is hoped that special terms for Exhibition goods traffic may be obtained from the Atlantic steamship companies. Full infor-

mation as to routes, traffic, rates, &c., will be provided in due course.

A general Official Catalogue will be published in English, French, German, and Spanish. A special catalogue will also be published for the British section.

The general reception of articles at the Exhibition buildings will commence on November, 1892, and no articles will be admitted after April 10, 1893.

Special regulations will be hereafter issued for the organization of the International juries.

The Royal Commission are informed that the contract labour laws of the United States will not prevent exhibitors from importing foreign labour, or from entering into binding contracts with their *employés*. Further information on this head will be supplied on application.

Every person who becomes an exhibitor in the British section thereby agrees to be governed by the rules and regulations laid down by the Exhibition Executive, or the Royal Commission through its executive officer.—*Journal of the Society of Arts.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPERS, BEWARE!

[912.] A friend of mine, who, now a very prosperous man, occasionally recounts his experiences as a boy earning 8*s.* a week by manual labour, has a favourite saying which seems to run counter to all his life-long experience—'Even a cat is a care.' One would suppose that a man who had fought his way upwards to an honourable and prosperous position would not feel the weight of care. Yet our suppositions would be wrong. The true diagnosis of another man's feelings is always difficult.

'Each in his hidden sphere of joy or woe,
Our hermit spirits dwell, and range apart.'

But a hive is certainly a care to many men, not, indeed, often to myself; but at times when everything goes wrong—when rain, for instance, falls day after day, just as the lime harvest is coming on—the strongest hive may be the greatest care! There are, too, other cares, not altogether connected with the seasons, which require continual caution. May I venture, then, to jot a few of these down for the edification of the weaker brethren? They may not, perhaps, carry the consent and assent of all the readers of your *Journal*. If so, I shall not at all object to a friendly 'poke in the ribs;' a little friendly fighting makes life o'tentimes more interesting!

Bee-keepers, beware!

I.—Beware of expensive hives! In the earlier stages of the bar-framed system an idea was prevalent that the more expensive the hive, the greater would be the harvest. That bubble has probably burst long ere this. Still, recruits are constantly entering our ranks—as, indeed, they need be, if our numbers are to make any progress. To such persons the warning is not altogether unnecessary. It may be almost accepted, I think, as an axiom in bee-keeping, that an expensive hive will not do its work any better than a well-made hive at a moderate cost. For instance, a hive that costs two pounds is not likely to bring in a larger harvest, *cæteris paribus*, than a hive which has cost a pound or a guinea only. When the bees begin to increase and multiply, when swarms seek 'fresh fields and pastures new,' new hives must be had, and cost is again a consideration. Only those who keep a balance-sheet know how much may be spent on an apiary, without counting the cost of time or labour. Beware, then, of expensive hives!

II.—Beware of low hives! There, at once, I shall find friends who differ. Let us, then, agree to differ. What is my objection? Manipulate low hives for half an hour, and experience will teach you. A lady 'stoops to conquer,' but I object very much to stooping for half an hour or an hour. In plain English, low hives produce backache, and I object to any ache. I like a skipping-rope in the winter, tennis in summer, and love a gallop across the greensward almost at any time, but I object to backache; so I say, take care that your hives are not very near the ground. If they are, and you ever look into them, you will soon suffer from backache.

III.—Beware, too, of wide entrances in autumn! I well remember the remark made to me some years since by the manager of a large apiary, that his hives would be ruined in half an hour if he did not narrow the entrances in autumn, and so check robbing. This last autumn I went from home, leaving my hives as strong as I could wish. What greater pleasure can there be, after reaping a good harvest (considering the season), than to have one's hives full of bees and full of promise for the future? But in my absence my poor gardener died. The entrances remained as open as in the height of the honey harvest. I sent special orders, when I was away, to make them narrow; but what boy ever does the right thing at the right time? So on my return I found that as soon as the honey harvest was over, the weaker hives had been attacked, and several of them ruined. There are vagrant swarms in almost all the farm-

houses round my neighbourhood, as well as in my own house. (I often wonder, by-the-bye, how the inspector of foul brood, *when* Parliament has been persuaded, will put his nose into the out-of-the-way homes of these vagrant colonies and condemn them or otherwise.) Detachments from these colonies are always ready for a robbing affray. Unless, then, the entrances are narrowed in good time, that is as soon as the honey-flow is over, even strong stocks are in danger. So, beware of wide entrances in autumn!

IV.—Beware of autumn neglect! I have often doubted whether Mr. Cowan's advice, to stimulate with gentle feeding in the early autumn, is correct, or otherwise. After all the time and attention which bees require in June and July, one is rather glad to leave them alone! The pears begin to ripen —Louise Bonne, Durondeau; or apples, such as Peasgood's 'Nonsuch,' Cox's 'Orange Pippin,' or 'Scarlet Nonpareil,' begin to steal our hearts away from the lovely little creatures so dear to us in the earlier months of the year! Still, if we wish our bees to prosper, we ought, I think, to stimulate them. The utter absence of brood from almost all my hives on my return home, led me to resolve never to leave them alone again! All of us must have noticed that as soon as the honey harvest is over, breeding almost wholly ceases. There was no food outside the hives for a long period this autumn; consequently the queens, in many instances, laid no eggs, so that the dwindling of the old bees in the early spring will be something serious. Entrances, then, should be narrowed as soon as the honey-flow ceases; the work of uniting stocks should be begun at the end of August or early in September, and stimulative feeding should not be forgotten if there is any lack of brood in the hives which you propose to keep through the winter. Beware, then, of autumn neglect!

V.—Beware of entrances which you cannot easily discover! A hive which once belonged to our friend George Raynor (of blessed memory) came into my possession shortly after his death. It is said to be an old Woodbury hive. The chief feature of it is that it has such a top as one has never seen before, and an entrance which one can scarcely discover even after a search. Need I say that in my absence the entrance had not been closed, and that the stock was hopelessly weakened before I could come to the rescue? One ought to be able to see at a glance what is going on at the entrance of a hive. One or two of my hives, made by a bee-master immortalised in your columns, have this serious defect, that it is difficult to discover what is going on at the entrance. The entrances are overshadowed by the sunshade. Such hives ought to be altered or avoided.

VI.—Beware of bottle feeders! As I write, the snow is on the ground, a captivating mixture of lemon-juice and honey is in front, and I am reminded by a cough which comes at intervals that in spring it is often dangerous to health to stand any length of time over the hives when the east wind is blowing. Abstractly speaking, I love the east wind! It pulverises our heavy land, and fits it for the seed; but I prefer not to face it, when it's as keen as it at times can be. So let it not fall to my lot to arrange a number of bottles on the top of my hives when the east wind is out and about! A flat feeder, which can be filled with the least possible trouble with warm syrup at eventide, is the feeder which suits my fancy. Bottle feeders soon get out of order; they are often cumbersome and difficult to cover, as well as to put on just as they should be; so, beware of bottle feeders!

VII.—Beware, of course, of foul brood! This goes without saying, but, unfortunately, foul brood does not go without something more than saying. It reminds me, indeed, in its unhappy habit of coming back to its old quarters, of a well-known line in Horace:—

'Naturam expelles furcâ, tamen usque recurret.'

Foul brood, expelled by might and main, as it were, by sulphur, carbolic acid, naphthaline, and Naphthol Beta, has a nasty trick of reappearing. So never reckon yourself safe; forget no precaution. Carefully subject all your apparatus in autumn to the influence of sulphur. There is nothing equal to sulphur as a disinfectant. Put naphthaline in each of your hives, and, if necessary, Naphthol Beta in the syrup. Visitors from the neighbourhood, remember, may bring foul brood with them. No Government inspection would discover the various colonies housed in hives of their own choice throughout the county of Essex. So be prepared to drive out foul brood as soon as a semblance of it is seen. Remember, too, that 'prevention is better than cure.' Beware of foul brood!

VIII.—Beware of great expectations! An oft-quoted text (of which I cannot give the chapter and verse) tells us that 'Blessed are they that expect little, for they shall not be disappointed.' Bee-keeping, it is true, has its disappointments, but not more than any other occupation. These disappointments, too, are not confined to England. One year, when staying on the Riviera, I found that there had been no harvest in that home of sweet-scented flowers and cloudless skies. Another year, when in Switzerland, I learnt that there had been scarcely any harvest there. California, I fancy, is the land of all lands for bee-keepers. Yet here, again, an old Latin saw will help us: *Omne ignotum, pro magnifico*—everything unknown is regarded as grand. If we knew more of California, the 'magnificent' would probably disappear; the 'familiar' might become even contemptible. 'Familiarity breeds contempt.' As a matter of fact, I believe that England is as good a country as any for the skilful bee-keeper. But let us recognise the fact that skill is required. In nothing is skill more triumphant than in bee-keeping. So beware of great expectations! Skill comes only with time and patience and

perseverance; perhaps not even then. Bee-keeping should be, generally speaking, what the Greeks were fond of calling a *parergon*—a work beside, or subsidiary to, some other work. If we have two or more strings to our bow, we are not so likely to be disappointed if one should break or fail. So beware of great expectations!

IX.—Bee-keepers, once more, beware! Beware of exaggeration. Lecturers receiving (as 'Amateur Expert' has well pointed out) their *2l. 2s.* per lecture, are bound to give a glowing account of that which they are recommending every one to adopt. In almost every instance the tendency of advocates is to exaggerate, to bring the strong points to the front, to keep the weak ones well in the rear. An amusing illustration of the effect of exaggeration occurred in my own experience, not so very long ago. I had been lecturing, and did my very best not to overstate my case; but a single instance of great success in one out of many years was, of course, recorded as the general rule in the local paper. Then followed another speaker. What he said I cannot vouch for, for I did not hear the half; but, returning not long afterwards to the same locality, I inquired what results had followed on our efforts. My friend went off at once into a broad grin. 'An unhappy farmer happened to be among the audience. He was told that hives should be kept by the farmers close to their hedges, and then the farmers would soon pay their rent with the produce! So the farmer hears again and again that he must no longer talk of agricultural depression; he has only to keep a sufficient number of hives close to his hedges, and his rent is assured!' The story reminds me of Mr. Hunter, a well-known member of our Committee in its early days. He used to urge that hives should be kept at the sides of our railroads, as well as elsewhere. In my youthful innocence and new-born zeal, I accepted the hint as a good one. Often since then have I looked at the embankments of our railways, hoping to discover a hive or two, but never yet have I noticed one. Still, there is time even for this improvement, as well as for others. 'All things come round to him who will but wait.' A man, however, must be a rare enthusiast if he expects to see our railway embankments adorned with hives, or the farmer's hedges studded at the sides with colonies of bees. In the syllabus for lecturers about to be issued by the parent Association, this kindly hint might well, I think, be added, 'Be careful not to overstate your case.' So once more I say, Bee-keepers, beware of exaggeration.—E. Bartrum, D.D., *Wakes Colne Rectory, Essex.*

METHOD IN BEE-KEEPING.

[913.] I read with very much interest the leader in your issue of the 14th ('Method in Bee-keeping'), and must say that my own methods have been largely influenced by the information gathered week by week from my well-read *Bee Journals.*

The ready way in which you respond to the questions of those anxious to learn emboldens me to ask your advice about the way of using foundation, as mentioned in the article referred to; and, as I am one of the many who have to study economy, even in pursuit of pleasure, I shall be pleased to see full information in next *B. J.* if possible:—1. Does thin brood foundation of, say, nine sheets to the pound, contain enough wax to be drawn out by the bees without any having to be added, as in the case of foundation used in sections? 2. Is it necessary to wire the same in shallow frames for extracting purposes? 3. If the thin foundation is used (wired) for the brood chamber, is it drawn out as quickly as the thick, and will it answer the purpose as well? A reply to the foregoing questions will help to make the way clear, and will enable us to study economy in a safe way. I should like to extract from 'X-Tractor' a little information about his own bees—whether kept 'in the Hut,' or no.—C. H. Dyche, *Burton-on-Trent, January 22nd.*

[1. Foundation 'nine sheets to the pound' is too thin for ordinary use in brood chambers. Unless wired it would be almost certain to break down if given in full sheets. For 'starters' it would do very well. As to its containing the requisite amount of wax, that is quite another point. The bees, in comb-building, use chiefly the raised wall of wax, which stands above the midrib, in forming the cell walls; this they make go as far as it will. The midrib, or dividing wall between the cells, remains pretty much the same as when given to them. 2. No; combs built in shallow frames above brood chambers are usually attached to the wood on all sides, and are quite safe in the extractor. 3. The thin wired foundation will answer the purpose quite as well, or perhaps better, than thick unwired; but, as the latter contains more comb-building material ready at hand for the bees' use, it is obvious that they will make more rapid progress with the thick foundation.—Eds.]

'CONCENTRATION OF FORCES AND NON-SWARMING.'

[914.] An article under the above heading, by G. W. Demaree, appeared on page 597 of the *B. B. J.* for December 31st, 1891, and appears to me to be worthy of some consideration. If the plan the writer gives there of managing colonies of bees would work out as well in this country as it seems to in America, it embraces two things much to be desired by many of us here. The principal advantages would be an exemption from swarms, and the small amount of manipulation needed; and from these would follow an increased and more profitable honey yield.

The system of management reads very prettily, but there are one or two difficulties that seem to present themselves to me in the working of it out. The writer states the time to operate on the colonies to be when they are 'strong enough to cast swarms,' and before any swarms issue. Now, we know that preparations for swarming are commenced many days before a swarm

issues, and most of us also know that when a colony has once began to construct queen-cells no amount of manipulation will scarce ever prevent swarming; they have got the fever, and build more queen-cells they will, and ultimately swarm out! Suppose we take a colony with queen-cells just started (which cells we would destroy), and treat in the manner described, would they cease cell-building and settle quietly down to work? I much doubt it.

Then, again, say we have confined our queen below the excluder with one comb only of brood and eggs, the rest to be empty combs, would there remain sufficient bees below to care for the eggs and brood? It seems to me that the one comb being so isolated most of the bees would join the majority in the upper chamber, and the poor queen, instead of adding to the number of eggs in the combs below, would spend the greater part of her time and strength in trying to pass the excluder: so that I should expect the result to be chilled brood in anything but very warm weather, and we don't always get hot weather here in early summer. Of course, this is all theory, having never tried any such plan. It would be interesting, however, to know if any one here had ever tried it, and the result. If workable and reliable its very simplicity commends itself to us; of course, the strain of bees would materially affect its working. I should not dream of adopting such a plan with any hope of success with some Carniolans I have seen, because I know all the extra chambers and excluders in creation would never prevent their excessive swarming.—Hy. Neve, *Warbleton, Sussex, January 20th.*

[If the precaution mentioned by Mr. Demaree is observed, and only such colonies chosen as are strong enough for swarming, there would be little fear of the bees deserting the queen and a comb of unsealed brood. For the rest, it is well to remember that Mr. Demaree gives the result of his own experience as an extensive bee-keeper. He has found the plan successful in America, and nothing but actual trial will prove its adaptability here or otherwise. There is, however, no reason why it should fail.—Eds.]

EXCHANGING OLD FOR YOUNG QUEENS.

Two Queens fertilised in a Colony with a laying Queen, with the same Entrance to the old Hive.

[915.] These are three subjects arising from crowds of thoughts on the question of the size of queen-excluder zinc, to which I am honoured with replies by Nos. 898 (p. 6 of *B. J.* for January 7), and No. 907 (p. 26) by Mr. Woodley in last week's.

I have a 12 × 12 inch fast board on the top of frames, over the middle portion of the body of the hive, to keep all the warmth of the brood nest in. My zinc queen-excluders are two inches wide upon one end, and in some cases on both of the frame-ends not covered by the middle board.

I have not yet proved the second queen fertilised in the same hive myself. We must accept it, as our American friends have found it to be so. I supplement my letter (No. 894, of p. 595, *B. J.* for December 31), viz., exchange frames of top and bottom hive, one with the old queen, the other with an advanced queen-cell, by adding 'or exchange the position of the two hives.'

There is another way which will suggest itself to a careful bee-keeper as follows:—Make an artificial swarm with a brood comb with advanced queen-cell fixed into it. Place this on the old stand. All the other full brood frames, which must contain plenty of hatching bees, just emerging from the cells, with the old queen, may be placed in the upper hive, or for a day or two in a dark cellar or away upon a new stand. The young bees do not fly during that time; the older ones will join the swarm. On the third day, place this (now the upper hive) on the top, upon the swarm on the old stand in position again. Open—through wire gauge—a measure of communication between the (now) two colonies, as, being estranged by having been parted, one lot owns fealty to the old queen, while the other has accommodated itself to its new situation, and clings to the queen-cell. When both lots have acquired the same odour, the next morning withdraw the wire gauze, and substitute the queen-excluder zinc. The young bees of the top hive will have to pass through the lower hive, and before the queen-cell hatches in lower hive, doubly separate the two hives by placing a double wall of queen-excluder between them, as advised by Mr. Dayton in *Gleanings*. The young hatching queen will have the only entrance all to herself.

My objection to queen-excluder over the whole is here: two queen-excluders half an inch apart, forming the double wall, are very simply arranged on my plan of two-inch-wide excluders only at the ends of the frames. The two queens breeding, doubling the numbers of the one colony, will turn it out very strong; swarming is prevented, and when the honey-glut arrives, the old queen may be removed, either destroyed or kept in reserve in a nucleus. —J. G. K., *Grove House, Southborough, Tunbridge Wells.*

P.S.—Very sorry to hear Mr. Cowan is laid up.

ONE WAY OF CURING LEAKY ROOFS.

[916.] No doubt many bee-keepers are troubled at times with leaky hive roofs; some we may paint inside and outside, and yet they will persist in letting the rain through. Perhaps the *best* cure with such is to do as friend Woodley suggested the other week, knock the old boards off, and replace with sound new ones; but I have found the following to be a *sure cure*—at least, for some time—and, moreover, very cheap, because the materials cost nothing. These materials consist of the gutter-

ings that besmear and bedaub our candlesticks from the ordinary cheap wax candles; enough may soon be collected, where many candles are used, for several hive roofs. Just melt the stuff, in any kind of vessel, and apply *hot* with a brush—when the wood is dry, of course; when hot, it is so very thin and penetrating that it seems to find every little crack, and fill it too, and, of course, directly it comes into contact with the cold wood in solidifies, and makes a sound job of it so far as keeping the rain out. The next hot sun will run some of it off, if a very heavy coat was applied; but this seems to only work the wax into the pores and cracks of the wood more, and improves it rather than otherwise, after which it will carry a coat of paint well, just for appearance sake. Some very bad roofs that I wax-washed three years ago as an experiment have remained waterproof ever since without further treatment. I take this, my first, opportunity of tendering my best thanks to our friend R. A. H. Grimshaw for his intensely interesting and profitable 'Development.' I assure him *all* his contributions are appreciated in this quarter.—Hy. Neve, *Warbleton, Sussex.*

Echoes from the Hives.

Honey Cott, Weston, Leamington, January 22nd, 1892.—At 1 p.m. to-day the thermometer stood at 46°, and the bees were out on the wing in great numbers. I could not resist going up amongst them; their merry hum made it seem very cheerful. Who but a bee-keeper can tell the pleasure of hearing the bees on such a nice calm day, after they have been confined for about three weeks. The frost here has not been very severe (nothing like it was before Christmas), although we have had some snow, but nothing like the quantity they must have had where friend 'X-Tractor' resides, and tells of having six inches of snow, nice and fresh, on the hives one morning. Well, I hope the weather prophets will be right, and that we may *all* have a good season. I had not yet received *Gleanings* for January 1st, on Thursday night, so after finishing the *B.B.J.*, I was saying to the 'gude wife,' 'I wonder *Gleanings* is not here yet.' 'Well,' she says, 'can't you be satisfied?—you have had a journal nearly every day this week'—meaning the *American Bee Journal* and *Hutchinson's Review*, &c. I see friend Woodley does not want excluder zinc on hives that he works for comb honey. He has told me so personally, too, but I myself like it; I do not think it hinders the bees, and it saves me a lot of trouble. My bees used to build so much burr comb, that when I took the sections off there was generally some honey leaking about, and having on the excluders saves all that trouble. The tom-tits have been visiting me, and three or four have had to pay the penalty with their lives. What a fuss about these so-called Punic bees and the Yellow Carniolans! I had my first Carniolan queen from Neighbours in 1876; there was no yellow or anything approaching to it, neither was there in others that I had for seven or eight years after that; it is only the last four or five years that they have shown the yellow. It was quite right what the late Rev. George Raynor said, they were not the same typical bees then as when first imported. I hope that Mr. Cowan has recovered from his attack of influenza. Wishing all a happy and prosperous new year. —John Walton.

Dromore, co. Down.—I have had about three years' experience in the art of bee-keeping. The year 1891 was fairly remunerative to me. From all sources I had 10*l.* cash off less than one dozen hives; but I am afraid as yet my balance will be on the wrong side. However, I hope to do better in the way of making bee-keeping a paying job. I make all my own hives, except three or four I got at first, and rain or storm causes me no anxiety, as none of my hives will let in a drop. My first swarm of 1891 came off on June 7th; it was the finest I ever had the pleasure of hiving. I got four crates (twenty-one each) of sections from it, sixty of which were saleable, and also a fine virgin swarm; but the only mishap in hiving I had since I started occurred with the virgin swarm, the queen getting crushed in the grass under our feet, so I am not able to report further progress in this direction; but I fear the hive the virgin swarm came off failed to get their young queen mated, as bad weather set in just after, and I think they are about the only stock that have not pulled through, so far, with me this winter.—Henry Hobart.

CLIPPING QUEENS.

There seems to be considerable diversity among bee-keepers as to the management of bees at time of swarming. Among these are the attempts at preventing increase, the best plan to hive swarms, and the prevention of swarms absconding. Whether the pretended success or failure of each individual arises from the kind of bees kept, the location, or style of hive used, I cannot determine. Perhaps the management peculiar to each keeper may give very different results. I have sometimes thought that the preconceived notions of the bee-keeper have as much to do with the reported success or advisability of certain methods as anything else. We are prone to do as our fathers did. What was a success once must succeed always. 'Once a failure, always a failure' is not always true; but rather success once, a failure often, and perhaps ever afterwards.

Several years ago, when I had but a few colonies of bees—and, as is usual with beginners, had much anxiety about bees at swarming-time—thought I found how I could keep a swarm and hive it to perfection. There was no climbing to be done, no cutting of fruit-trees, and, more than all, no cross bees or stings. By watching the swarm as they issued, I frequently

secured the queen, put her in a cage, and, while the swarm was on the wing, I would place an empty hive on the old stand, and have the bees hive themselves. This worked so well that I concluded I could improve on this by getting the queen every time a swarm came. To do so it was only necessary to clip the wings of her royal highness. This was done. In the meantime, however, my colonies had increased to forty or more, and, as the time for swarms would come only once a year, and only last about twenty days, and they not all swarming days, and only a few hours in the day when swarms issued, I would have my hands full. I found that when queens were detained or unable to go with the swarm, the bees would seldom cluster, but would remain three or four times as long on the wing as it would take them to alight when accompanied by her. The swarm would spread out over the whole yard, and, in case there were other swarms to issue then, they were sure to get mixed, and when they returned, would often divide themselves very unequally. At other times a queen that had superseded another could fly, and the two swarms would surely cluster together. Once in a while, too, the swarm would enter another hive quite remote from whence it came. I ascertained that clipped queens are more liable to be lost or superseded, even in their prime, than when they were not thus mutilated. I usually can hive a swarm quicker after the time it leaves the old stock, when the queen can fly, than the time it takes to await its return when she cannot do so. Of course, a swarm never runs away without its queen, but then the number that do so in an apiary where the keeper is constantly present is small indeed. And if he is not present, his clipped queen is quite often lost, and the swarm is delayed till a young queen is ready to accompany it. If a swarm is desired at all, such a one is not satisfactory.

I am not surprised that a good many of our most noted apiarists no longer practice clipping queens. Why many advise this practice, but do not follow it themselves, I cannot comprehend; neither can I understand why other successful keepers should practice it, when they certainly must have met with some of the untoward circumstances attending it. Do they find the advantages overbalancing the disadvantages? Well, I suppose every one beginning bee-keeping will have to prove every mode that has ever been in vogue in order to see whether we 'old fellows' tell the truth or not. Let them try to prove it all, and hold fast to that which is good, and maybe some very useful inventions may be the results which were overlooked by former bee-keepers.

Alas! how many of our supposed inventions have been found, after a thorough trial, to be only a theoretical phantom! The discovery that swarms could be made artificially was one of these, as they are often made by separating the old hive and contents in halves, either horizontally or perpendicularly. The catching of moths in traps is another; the wintering of only a quart of bees instead of a full colony was yet another. To these may be added the removal of all pollen for wintering, the reversible hive, wintering on syrup instead of honey, and so on.

Will not the clipping of queens' wings also soon be added to this list? Yea, I verily believe. Some one will ask, 'Is, then, bee-keeping, as at present carried on, only an experiment, and not a science?'—G. W. NEIHARDT, *in 'Bee-keepers' Guide.'*

INTELLECT AND INSTINCT OF BEES.

(*Concluded from p.* 30.)

In Australia, where food is abundant most of the year, in order to have honey it is necessary to import new queens that will produce workers that have not had experience in that country. And if they cease to store up honey when experience tells them it is not needed, is not the opposite true that when they do store it up in those climates that have long winters, they do it consciously, and with a full knowledge of the need they will have for it?

Again, why do bees pursue and sting one who robs them of their honey, if they do not know its value?

It has been stated on very good authority that the Italian bees will sometimes attack in mass a man who has robbed their hive, days after the occurrence, as if to destroy him.

And this brings up the fact that they have a very good knowledge of human nature, and know their friends from their enemies, if not perfectly, reasonably well.

In placing comb in new and difficult places, they show a diversity of practical engineering talent which entitles them to much credit.

Another instance of the intellect of bees is shown by the fact that when in hot weather they find their hives illy supplied with air, of which they require much on account of their great activity, they station a number at the entrance to the hive, who use their wings vigorously, driving a considerable current within. To be able to remain in their places they seal their feet to the floor, otherwise they would fly away, so active are their movements.

I might mention other facts, but these are sufficient for my purpose. I know that many, even naturalists, will say that all these acts are purely instinctive, and not the result of reflection or reason.

Let us look into the matter a little more closely. What is instinct? Dr. Reid defines it as,' a blind impulse to certain actions, without having any end in view, without deliberation, and often without any conception of what we do.'

In other words, instinct is the power of acting without reflection, but in a manner so as to achieve an end, the same as if reason and intelligence had been used, and always in response to some internal stimuli, depending on some necessity requiring such action.

Instincts are always inherited. They are the

results of the experience of ancestors for so long a time as may be required to organize them into the structure of the nervous system, so that they become part of its property. In order that any act may become instinctive, it must be performed in every way many times, so that it 'does itself.'

When a new act comes up that has never been performed before, or performed only a few times, then it seems to me reason and reflection are required. After a while the act may become partly instinctive and partly the result of reason, for some instincts are imperfect.

Now, I shall refer to only one of the acts mentioned above, that of building a comb of a particular form to fit into a place such as in all probability the bee or its ancestors could never have had to do before. The building of the comb would be easy, but to get the right form and size it would be necessary to think, to reflect, and to distinguish between the right way and the wrong one. This would be an act of reason, of deliberation. It may be said that there is not sufficient brain substance in the bee to allow of such complicated mental operations.

I think this is begging the question. How do we know this? Who has given us any right to make such a statement? Is it not a bit of egotism in man to claim that he alone thinks, plans, reflects, and adapts means to ends? Man is fairly well adapted to his realm; the bee, the beaver, and every animal to theirs; and all when necessary have the power to think, to deliberate, and to keep their plans long enough in their minds to execute them, or to change them if need be; also to see the difference between one plan and another, to compare them, and probably to rejoice when they have triumphed over obstacles which may at first have seemed insurmountable.—M. L. Holbrook, M.D., *in* '*Phrenological Journal*.'

GIVING A LAYING QUEEN TO A PARENT COLONY.

Location, and its Bearing on the Question.

Question 197, found on page 928, December 1, regarding the giving of a laying queen to a colony having just cast a swarm, is a very interesting one, and one that has much to do with our honey crop if we are situated in certain localities. This whole matter of profit, resting on whether we should give such a queen or not, must be decided by our location. If the location gives a continuous yield of honey, then the giving of a laying queen immediately after swarming will prove a profitable investment; but if the location is one like the average location, which gives a good yield of honey at one or two stated periods during the season, then the giving of a laying queen at the time of swarming will generally prove decidedly unprofitable. We have been told for years that the bee-keeper who wished to secure the best results from his bees should have on hand, and give to swarming colonies, queens as above; and the reason advanced for so doing has always been, that the time lost by the parent colony in rearing a queen was equivalent to a swarm. I have experimented largely on this line; and the truth of the statement, that the time lost by the bees in rearing a queen in natural swarming is equivalent to a swarm of bees, is the first reason that it will not prove a success in locations similar to my own, which gives, at most, only two honey yields each year. If it were bees I were after, the case would be different. With me white clover yields only enough honey to keep the bees breeding nicely, and prepares them so that they swarm mainly from June 20 to July 1. Our honey harvest is from basswood, which blooms from July 10 to 16. Now, all who are familiar with natural swarming know that the bees are comparatively few in numbers in spring, and increase by the rapidly increasing brood produced by the queen, which, in due time, hatch into bees until a swarm is the result. By giving a laying queen to a colony immediately after it has cast a swarm, we bring about the same results (swarming) as before, for we place the bees in the same condition. The only difference is that, having plenty of brood, they build up quicker, and are prepared to swarm in a shorter time. As this second prime swarming, brought about by giving the laying queen, comes right in our basswood honey harvest, it cuts off the surplus honey; for it is well known that bees, having the swarming fever, do little or no work in the sections; and if allowed to swarm, the object we have sought after (section honey) is beyond our reach. If this laying queen had not been given, and we had worked so that no after-swarms had issued, we should have found that the young queen, which was to become the mother of the colony, would have hatched, as a rule, in eight days after the swarm issued, and in ten days more she would be ready to lay, which would bring the time of her laying at about the time basswood would be yielding honey nicely. During this period, between the time when the swarm issued and the young queen commences to lay, the bees, not having any brood to nurse for the last half of the time, consume but little honey; hence, as fast as the young bees emerge from the cells, they are filled with honey; for bees not having a laying queen seldom build comb in the sections. Thus, when the young queen is ready to lay she finds every available cell stored with well-ripened honey. At this point the instinct of the bees teaches them that they must have brood or they will soon cease to exist as a colony. A general rush is made for the sections; the honey from below is carried above, so as to give the queen room, and in a week we have, as a result, the sections nearly filled with honey, and later completed, if the season is not unusually unfavourable. In this way good results are obtained in such a location as this, while, if a laying queen is given, the basswood honey season is nearly or

quite used up by the colony becoming 'sulky' with the swarming fever, if they cannot have their own way.

After basswood we have a honey-dearth, hence the bees from the introduced queen are of no value, but, on the contrary, become useless consumers. On an average, it takes twenty-one days, from the time the egg is laid, to the perfect bee ready to emerge from the cell. Then, if the colony is in a normal condition, this bee does not commence labour in the field till sixteen days old; hence the eggs for the honey-gathering bees must be deposited in the cell thirty-seven days before the honey harvest ends, or else they are of no value as honey-producers. As the basswood is all gone before the eggs of the introduced queen becomes honey-producing bees, and as the larger part of them die of old age before buckwheat or fall flowers yield honey, a great gain is made by letting each old colony, having cast a swarm, rear their own queens, for thereby we save the expensive feeding of the larvæ, which are in turn to become expensive consumers of the honey of the hive.

These things are well worth looking into by every bee-keeper: and if brood-rearing is used advisedly, with an eye on our location, we shall find that great profit will result therefrom. The 'Rambler' hits very close at this matter in his answer to query 197, where he says, 'I want egg-laying to go on briskly when there is a prospect of those eggs hatching bees that will gather honey.' In other words, if these eggs won't hatch bees that will gather honey, don't allow the eggs to be deposited. Mr. France also comes right to the point where he says, 'If we should introduce a laying queen after the season was so far advanced, bees hatched from her eggs would never gather any surplus honey for us, as the season would be over before they would hatch out. I would much rather not feed brood at that time.'

Reader, here is something worth carefully thinking over, for by such thinking along these lines much profit may come to you.—G. M. Doolittle, *in 'Gleanings.'*

APICULTURE AT THE COLUMBIAN EXPOSITION.

A paper was read by Dr. Mason, on the recent Convention at Albany, on the outlook of apiculture at the Columbian Exposition. From it we learned that all exhibitors are to be on the ground by April 1, 1893, and that each State, for its honey exhibit, would be allowed only 100 square feet. Colorado bee-keepers alone had applied for 1000 square feet. This was a poser. In the discussion which followed, it was urged that we ask for more space, as 100 square feet per State would be insufficient. But over against this it was urged that all the States would not attempt to make an exhibit of honey, and their apportionment of space would go to help make up the allotment of the States that did wish to exhibit. During the course of the discussion, Captain Hetherington, who has had much experience, told us, in a very interesting way, of the honey exhibit which he prepared for the Centennial in 1876—an exhibit which attracted so general attention at the time. He gave us many interesting suggestions—suggestions which the committee will probably make use of. A committee of three, consisting of Dr. Mason, P. H. Elwood, and Hon. J. M. Hambaugh, with Dr. Mason as chairman, was appointed to confer with the proper authorities of the Exposition at Chicago, with reference to an apiarian exhibit at the World's Fair. As heretofore, the Convention was about to recommend Dr. A. B. Mason as the right man to take charge of the honey exhibit. Some one, I believe it was Mr. Dadant, said it was an unnecessary step, as the Commissioners would follow their own sweet will, no matter what recommendation we might make. In the general discussion it was regarded that this was the golden opportunity now before the bee-keepers of the United States to make a grand exhibit—one that would be educational, and of much importance to the industry. It was not an opportunity that we could afford to let slip by, and it was hoped that the committee appointed would give the matter the attention it deserved. —*Gleanings.*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers & correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. Finlay.—*Soft Bee Candy.*—The sample of candy sent fulfils all the conditions you claim for it, and is an admirably made bee-food for use at this season.

J. Thompson (Keswick).—Don't do what you propose. The bees will do very well for another month, and more harm than good will be done by disturbing them at this season.

Williamson (North Wales).—We don't advise you to purchase the bees under the condition stated. Buy natural swarms; they will be far more satisfactory to you, and you will obtain better results from them.

*** *We regret to announce that Mr. John Huckle has been seriously unwell for some few days past. It is hoped, however, that the worst phase of his attack has now been got over, and that a few days' rest will set him right again.*

We are requested to ask on his behalf that correspondents who may be waiting replies to their communications will kindly accept this as a reason for the delay.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Already the warmth of the coming spring is beginning to make itself felt in the re-awakening to life of myriads of tiny and delicate insects, preserved—we may well wonder how—in such marvellous fashion from the keen winter frost. The fresh green of new growth in plant life spreads apace; bees are again familiarising us with their welcome hum, and the indifference begotten of the dead season in the apiary is, we hope, giving place to a renewal of the old interest in the bees and their belongings. Not a warm day comes round which does not see a big 'turn-out' of the bees, and our feeling of pleasure—which is a somewhat sentimental one—at the sight soon begins to take a prosaic turn, the bees themselves reminding us that they have not forgotten their very matter-of-fact robbing propensities. The careful bee-keeper, therefore, after the orthodox clearing out of such of the winter's dead as lie in doorways, still further reduces the width of entrances, and by a little timely feeding, where wanted, strives to reduce the necessity for foraging on the bees' part until such times as 'the flowers appear on the earth, and the time of the singing of birds has come.' Judging by our own stocks, the weather of the past winter has not tried bees very severely, the mortality being much under the average. Up to date, no accounts have reached us of whole seams of dead bees found between the combs, as were so common a year ago, so that it is a fair inference to suppose that stocks have wintered well so far.

SELECTING STOCKS AND QUEENS.—Seeing that the mild weather of late has allowed for frequent bee-flights, full opportunity will have been afforded for selecting the stocks from which the best returns may be expected, or for judging which colonies are in most promising form for the coming season's work. While referring to promising stocks, we here venture to express a hope that no reader of these lines will carelessly allow stocks possessing every element of prosperity, except full stores of food, to fall back in early spring for lack of a little attention. By this is meant just noting whether food is plentiful; beyond this, the less 'attention' given the better for the present, but it is sheer folly to have stocks of bees undergoing risks of actual starvation—as occurs every year in some hands—when they may be rendered safe with so little trouble and expense. Weak lots also require special caring for and nursing if their queens are young, those with old and worn-out queens being prepared for joining to the former a week or two hence. On no account, however, do we advise adding the bees of weak colonies to strong and prospering stocks, actual harm not seldom being done to the latter by such operations. In fact, one of the most 'useful hints' we can offer is to let well alone in bee-matters, otherwise spring prosperity may be changed into 'spring dwindling.' In selecting queens the same principle applies. Attach little or no importance comparatively to the appearance or the beauty of the queens. Appraise their value by the working qualities of the progeny and their own prolificness, bearing also in mind that records as to age and the identity of queens are liable to cause serious mistakes if entirely relied on. The deposing of queens and re-queening of stocks by the bees themselves are of more frequent occurrence than many suppose, and prolific young queens have been made away with in ignorance, because the owner's 'note-book' registered them as 'old.' We therefore recommend the exercise of care and judgment in selecting queens to head colonies for the coming year's honey-gathering; and, if a stock is doing well and making good progress, to 'let well alone.' Finally, bear in mind that young queens are infinitely less

difficult to control in swarming than old ones.

ARTIFICIAL POLLEN, WATER, &c.—A correspondent inquires as to the advisability of providing a substitute for natural pollen in places where the latter is scarce, and the time to begin such feeding. Except when the weather is very mild indeed we would not advise giving pea-flour outside so early as February. In places where bees carry in natural pollen this month, if there is any scarcity and breeding is progressing, we should prefer giving pea-flour in candy to setting it outside—at least until such time as spring flowers are more plentiful and cold winds less frequent; provision, however, should at once be made for supplying water where no natural sources are available close to the apiary. Enormous numbers of bees are lost in exposed places through the work of water-carrying in early spring, and if they can be coaxed to a quiet, sheltered spot, close to their own homes where a constant supply of water is maintained, the saving of bee-life will be considerable. A good deal of difficulty is occasionally experienced in persuading bees to visit home water-troughs, and it is sometimes necessary to sweeten the water a little as an inducement until they get accustomed to it. Afterwards nothing is needed beyond making the supply constant. When taking a glance at tops of frames, as is so necessary at this season, to note the condition and size of the cluster of bees as they lie between the combs, it may be well to give a cake of soft candy just above the centre of the cluster, because it not unfrequently happens that all food is consumed in the immediate vicinity of the bees while there may be abundance in the outer combs. Uncapping a little of the latter, or even bruising the surface of the cappings, will cause the bees to remove the food nearer to where breeding is in progress on the first warm day, and is, therefore, an advantage.

DEAD STOCKS.—Hives in which the bees have perished during the past winter should be removed indoors without delay, and have their contents examined, to find out the cause of death, if possible; all but clean, healthy combs being melted down or destroyed if any trace of disease is found in them.

Tits have begun to trouble the bees a good deal of late; they should be destroyed when the mischief becomes serious.

APPLES AND HONEY.

A London evening paper (the *Echo*), in a recent issue gave prominence to an article with the above title by a well-known writer on kindred subjects, from which we extract the following as being of interest to bee-keepers:—

'*Perfect Food.*—Space prevents me dealing with the question of environment on this occasion, and I at once proceed to say that the most perfect food that can be taken for the perpetuation of life, and the elimination of disease, may be found in an admixture of apples and honey, and that is a very simple matter to prove. Writing in 1745, a physician to the French King says that apples are both moistening, cooling, and pectoral; that the more sweet and pleasant they are the more wholesome they be, and therefore we ought not to use those wild apples that grow in woods and mountainous places, for they are sour and astringent, and that the fruit derives its name from a word signifying "to cure," because it is much used for food and health. In dealing with the dietetic value of the apple, I need scarcely point out, first of all, that the action of its juice and acids tends to enrich the blood by purifying it. Partaken of freely, they speedily reduce the temperature very considerably, and with it the pulsations and work of the heart. The fruit juice enables the work of eliminating from the system waste and effete matters, which are often the groundwork of disease, to be more freely and effectually performed; in one word, they act upon the tissues, and remove from them those earthy deposits which in advanced age are the cause of death. The apple is especially valuable from a chemical standpoint, on account of the sugar and malic acid it contains, and although there are only one part of flesh-formers in it to twenty parts of heat-givers, and it consists of over eighty per cent. of water, yet it forms a pleasant and wholesome article of diet, and has less mineral matter in its composition—except the grape, which has an equal amount—than any other plant grown. The wholesome nature of the apple was well known to the ancients. Pliny refers to the custom of boiling apples with wine and water to make a preserve, which was eaten with bread, and formed one of the table dainties of his day. So many remedial properties were ascribed to the apple in past ages that we find in the fable of the people named Astomi, who were supposed to live near the source of the river Ganges, that, having no mouths, they lived upon odours inhaled through the nostrils, and that when they went on long journeys they carried with them odoriferous flowers and fruits, amongst which the "wild apple" is named.

'*Honey.*—In spite of the great increase in the production of honey of late years, the consumption of this delicacy is nothing at present to what it should be. Far greater attention was paid to apiculture by the ancients than by the moderns, although nearly 15,000 tons of honey are made in America, 13,000 tons in Russia,

2500 tons in the United Kingdom, and 12,000 tons in France every year. Independent of these quantities, Austria, Italy, Spain, and Portugal also produce it on a large scale, and savage tribes in various parts pay great attention to its collection in their forest wilds.

'Philiscus, of Thasia, wrote extensively on the habits of bees and the production of honey. He passed most of his life in the forests, for the sole purpose of studying their habits and gathering their honey. Galen, it is said, observed honey upon plants and trees in various parts where no bees lived, and that it was customary for the peasants in the parts referred to, when they came across it, to say that "Jupiter has rained honey." There is no doubt that the substance here mentioned was not honey, but what is termed honey-dew, such as is common in the deserts of Syria and Arabia, and which, under certain atmospheric conditions, assumes a consistency similar to the honey of bees. No people pay more attention to apiculture than the Circassians, who carry on a very extensive trade in mead and beeswax, which is prepared and sold on the frontiers of the Caucasus. At Athens honey was in great request, and to regulate the bee-keeping peasants of Mount Hymettus, Solon enacted a law so that every man's stock should be kept at 300 feet from that of his neighbours. In the Caucasus a tribe exists who carry their bees and hives with them wherever they go. In Brazil honey is used principally for medicinal purposes. The richest and most delicately flavoured honey is obtained by bees from the Arabian jasmine, of which Hindoos say that the bees sleep upon its blossoms every night. The honey of Sicily is rich, also that of Moldavia and Wallachia, and in the fields outside the town of Narbonne, which abound in rosemary, a very fine honey has been obtained for centuries.

'*Medicinal Properties.*—Medicinally, honey is esteemed as a purgative and an aperient, and, mixed with various substances, it is specially useful as an internal medicament. Horace says that of all medicines for the stomach there is nothing equal to wine and honey. The disciples of Pythagoras mostly lived upon it; and of Augustus it is said that, on inquiring of an old man how he had attained such a ripe old age—he had turned 100—he replied that it was by the use of "oil without and honey within." The nutritiousness of honey is beyond dispute. Its sugar is speedily absorbed into the circulation after it is eaten; in fact, honey is a very rich and valuable nutrient, but, of course, is liable to disagree if partaken of too freely. This difficulty is, however, obviated by its admixture with the juice and acids of fresh apples. The two combined form a very appetising and perfect article of diet, suitable not only for the elimination and prevention of disease, but for the prolongation of life, where other things are equal, to a very lengthened and indefinite period. Whilst 100 pounds of grapes contain thirteen pounds of sugar, the same amount of dried figs contain fifty-seven pounds and honey eighty pounds. To obtain the best results they should be eaten in the following manner: The apple should be large, well ripened, and matured; the fruit should be eaten raw, cut in slices, after the pips and core have been carefully removed and thrown away. The slices of apples should have a thin layer of pure honey spread upon them, and eaten thus they form a delicacy fit for a king. As a rule, many apples do not contain that amount of sugar they ought to, and persons often complain of their lack of sweetness. The use of the honey as described should thus tend to an increased consumption of one of the most wholesome and luscious fruits grown.'

FOUL BROOD CANNOT EXIST IN FOUNDATION.

I have just read Mr. Corneil's last article on 'Foul Brood Spread by Comb Foundation' with great interest, as I read all Mr. Corneil's articles. I am quite interested in this vital question, as I am a maker of foundation myself, and also quite an enthusiastic experimenter in methods of rendering wax from old combs.

Now, while reading, it suddenly dawned upon me—nay, I may say it flashed upon me like an electric light—that none of the parties to this controversy have yet seen the matter in its true nature.

I have often wished I were a scientist, but I am not. Neither can I offer any experiments showing the degree of temperature required to kill the spores of foul brood in melted wax. But I believe I can tell Mr. C. why it will not be at all necessary to spend much time, and better still in these hard times, any money, to determine that point. This may put Dr. Sternburg out of a job, but it will be 'all for the better.'

I believe that I can assure Mr. C. that every spore of foul brood that has ever been in melted beeswax during the processes of rendering, refining, and sheeting for foundation, is as dead as an Egyptian mummy. How do I know? Why, Mr. C. proved it to me in his last article. The funny part of it is he does not see it in the same light as I do, and that none of the veterans like the Dadants and the Roots have 'caught on' to the point.

But to the proof. Just turn to page 714 of the *American Bee Journal*, where Mr. C. quotes a paragraph from Mr. Dadant's article, in which the latter says: 'Sometimes we find bits of paper, which, soaked with wax, are so transparent that it seems impossible to separate the two substances, yet, when our cakes of wax are cold, we find the paper altogether clear of wax.' See, then, how Mr. C. goes to work and proves, in a very wise experiment, that Mr. D. is mistaken, that paper once saturated with wax cannot be freed from it by any amount of boiling in water, and that he concludes thus: 'It must now be clear to the reader that in Mr. Dadant's moulds all foreign matters, including foul-brood spores, remain like the paper encased in wax.'

Now, mark well the words, 'encased in wax.

Was it not rather saturated with wax? Was it not so well saturated that no amount of boiling in clean water would free it from the wax? And why should Mr. C. continually talk of foul-brood spores encased in wax? Are not dry foul-brood spores certain to be not only encased, but saturated with wax? And, being once saturated, does Mr. C. think that any amount of boiling would ever free them from wax? Remember that Mr. C. himself says that the dry and indurated spores are the most obdurate to the effects of heat. Now, any one at all used to melting much wax knows how very penetrating hot beeswax is. Stick in a piece of dry wood, and it will be soaked so that you can never free it from the wax. Heat your finger and put it, perfectly dry, into wax even moderately hot, and it is next to impossible to get the wax off without taking parts of the cuticle along. Then why should foul-brood spores alone be only 'encased' in wax, and not saturated? I think they are saturated. And does any one think that any such saturated spores as remain in foundation can be infused with life? Well, I for one do not, but I am open to conviction.

I will only, in conclusion, state I do not think it requires very hot wax to be penetrating; that, directly after it has passed the melting stage, it will penetrate dry substances of any kind which can be at all penetrated, provided they are of the same temperature as the wax, and left in contact with it for a while.—T. H. KLOER, *in 'American Bee Journal.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements.)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

LEAKY ROOFS—ANTS IN HIVES.

[917.] There are two little matters connected with hives about which I frequently see inquiries in your *Journal*, so that I am prompted to give my own experience about them. One is the best covering for hives to keep out rain. Some years ago I had a sheet of zinc, the proper size, nailed on the roofs of my hives, and I have never known a drop of water enter any hive since, and zinc requires no painting. The other is, What is the best way to keep ants out of the hives? I was very much troubled with them, and I tried the chalk line on the legs of the hive. I did not find that of much use. I then tried what I find recommended in the last number (February) of the *Reco. d*, viz., standing the legs of the hives in dishes of water. This certainly kept the ants out; but the trouble of keeping the dishes full of water in hot weather, and, worse than all, the great number of bees that got drowned in the dishes, showed me that that plan would not suit; so for the last two years I have had a piece of coarse flannel tied round each leg of the hive, and once a week I pour a little of the coarsest paraffin I can get over the flannel. This I find an effectual preventive. Strong as the smell for a short time is, the bees take no notice of it, but go on as usual. Of course, I have plenty of water otherwise for the bees near the hive.

I owe so much to the 'Hints' I have had from the *Journal* that I think it but right that I should mention a good thing when I know it.—J. S. DISMORR, *Gravesend, January 28th.*

NOTES BY THE WAY.

[918.] Our bees have had the much-needed opportunity for a cleansing flight. On Sunday and Monday, the 24th and 25th ult., were two bright, sunny days, and the apiary was one busy hum all day, and, as a neighbour bee-keeper remarked, the stocks 'showed well at the mouth,' referring to the number of bees around the entrances of the hives.

The drying winds having driven the damp out of the roofs, we have taken the opportunity of painting a good few of them. This job ought to have been done last autumn, but the continued wet weather at that time made it impossible to do outdoor painting, and now I shall feel that, come rain or snow during February 'fill dyke,' some, at least, of my stocks will be free from wet and damp cushions.

We have also taken advantage of the higher temperature to examine the cushions and coverings of the bees, and, where signs of damp or mildew were apparent, the damp wraps have been replaced by dry ones; and the gude wife having made up a half-hundredweight of sugar into cakes of candy, the whole have been distributed where required, and a feeling that all is well for the next six weeks as regards provisions is the cheerful result.

I have arranged the watering-places for the bees in the old positions, with the customary tea-leaves to prevent drowning while sipping the moisture, and the box-edging on the north and north-east sides having been clipped into shape, leaving the south-east, south, and south-west sides open to the sun, makes a sheltered spot where my bees can gather up the moisture needed during the breeding season without the possibility of getting drowned or chilled. This item I think of great importance, as valuable bee-life is saved just when bees are most needed to ensure building up of stocks in early spring, and is one preventive of spring dwindling.

I am looking forward to the illustrations of

the self-hivers our Editors have promised us. *Gleanings* for January 1st, 1892, has a drawing of Dibbern's improved self-hiver, with a long article by the maker, in which he speaks very favourably of the device, and after the extensive scale on which he has carried out his experiments, viz., on hundreds of hives, he ought to be able to speak *ex cathedrâ* on the subject. Mr. Dibbern says, 'I believe the swarmer a good thing, and will prove a boon to bee-keepers,' and he closes his interesting article with the assertion that 'the swarmer greatly lessens and retards swarming. On this account bees will gather more honey per colony with swarmers than without them.' It is satisfactory to know that our American brethren are investigating this and kindred subjects that tend to lessen the cost of honey production. It will be a great advantage to the bee-keeper whose bees are located on some plot of garden ground some distance from home, or in case of a bee-keeper whose business takes him from home during the day, to be able to put his swarmers or self-hivers —call them which you please—on his hives as soon as they show symptoms of swarming, and go about his usual occupation with a feeling of security and satisfaction that, come what may in the apiary, his swarms are safe. Then what a relief these devices will be to the busy housewife with her multifarious duties to know that the bees do not require watching down at the bottom of the garden! These items of expense to the future apiarian will pay manifold, as, like the super-clearer and some other things, they will last a lifetime—in fact, may be bequeathed to future generations of bee-keepers with other goods and chattels in our last wills and testaments.

By-the-bye, speaking of super-clearers reminds me that Mr. Flood had a new style of clearer on view at our annual meeting embodying my suggestion, made some time back, of other uses for super-clearers besides clearing out bees from the crates of sections. His new escapes or clearers *take out of the board*, thus leaving the board with an oblong hole in the centre just ready to place under a crate of extracted combs or half-filled sections, from which the honey has been extracted. This plan of giving bees comb to clean up I have proved a good one, as only a hole in the quilt over the colony is required to give them access to the super.

Leaky roofs, according to Mr. Neve, can be cured very cheaply by giving a saturating coat of melted wax or composite candles, and I have no doubt it is effectual. This leads us to the thought that our bees supply us with the very stuff to render their habitations waterproof, viz., *wax*. If a composition of spurious wax will accomplish the object in view, how much better would a coat of the genuine article render a faulty roof waterproof? Thanks, friend Neve, for the idea; we will give it a trial, and induce thorough incorporation by running a hot flat-iron over the work when done, then a coat of paint well laid on with a rather larger proportion of dryers in it to ensure its drying hard, as I should think the waxed surface would not be in the best condition to take paint.

Bees on the wing to-day and at the watering-places, and a few blossoms of white arabis are bursting out; crocuses also are pushing up their flower-spikes through the ground. The hazel catkins are unfolding, ready to scatter their wealth of pollen to the winds later on in the month, when the minute hazel blossoms are opened to receive it, and the music of children's voices is heard on the village green. All these are signs that spring is near. The question of foundation-making is making progress, and seems coming to the front again. Perhaps some of the older members of the craft can throw most light on the question of using drone-size foundation in lieu of worker size for sections. I have seen sections of honey all drone cells, but cannot say I like the appearance so well as the worker-size cells; but probably that may be because my eye has been trained to one size only. Messrs. Abbott Brothers used to, and probably still, make drone-size foundation. If 'South Devon' thinks of using drone-size foundation for sections he must use excluders, or his queens will surely go aloft and spoil his sections with brood. I do not think it a wise policy to use very thick brood foundation, as I find bees oftener build on the foundation than draw it out, or use it in making the side walls of the cells; and in the case of flat-bottomed *brood* foundation, I have never had a single sheet of it worked out by the bees into natural-based cells. It has always been left as given, though I admit it has been accepted as readily by the bees as the natural-based, and the bees bred in it show no outward sign that they have not been reared in a natural sized and shaped cradle.

I trust both Mr. Cowan and Mr. Huckle are recovered from their attacks of influenza ere this. We have it in all directions, but personally have escaped the plague so far.—W. Woodley, *World's End, Newbury*.

SELF-HIVERS.

[919.] As I understand that you are having an engraving of the 'swarm-hiver' that I submitted for your inspection prepared for insertion in the *British Bee Journal*, I send you a few lines explaining, so far as my experience goes, the best means of successfully using it. I hope that bee-keepers will give it an exhaustive trial during the coming swarming season, and report the results. My first experiment with self-hivers was to make a tunnel exactly similar to the arrangement of Mr. Bennett, as described in the *Bee Journal* for 1890; but the objection I found to this was that it became blocked with the drones in their endeavours to get out, thereby causing excitement and insufficient ventilation. A swarm issued and returned, altogether ignoring the receptacle placed ready for it in front. I therefore set to work and made the arrangement that you are acquainted with. In using it I

placed a skep over the opening in the top board to receive the swarm, and should recommend always using that or an empty box—not a hive prepared with frames, &c., for I take it that if the swarm is properly secured, that is all that is necessary. I should also always use a skep or box with a large hole in the top, over which I should place queen-excluder zinc. By doing this I have found that the drones are not nearly so troublesome in stopping up the perforations in the zinc at the entrance below, as I found that many of them were up in the skep having a fly round, and apparently not troubling much about further liberty.—W. J. SHEPPARD, *Woodford, Essex.*

[The engraving referred to by our correspondent is being prepared, and will appear in due course. —EDS.]

A HANDY WAX-EXTRACTOR.

[920.] Through the death, on New Year's morning, of my father who was a bee-keeper for the last twenty years, I have come in possession of the last two volumes of *B.B.J.*, his hives and bees, and, as I have not seen any mention of a cheap and efficient wax-extractor, I send you particulars of one I made in the fall of 1890, which, in my opinion, and also experience, is very handy wherever there happens to be a boiler in the house. It is after the principle of Professor Gerster's, and consists of (1) a perforated zinc basket, (2) a shallow milk-dish, and (3) a stand made out of a ring of hoop-iron, with three legs attached to it (or three bricks will do as well).

After setting the stand inside the boiler, I run water in till it is on a level with the top of the stand, then place the milk-dish (with a little water in it) on the stand, and, having filled the basket with the combs broken in small pieces, insert it inside the dish, cover up with the lid, get the water to boil, and let the steam do its work, refilling the basket from time to time as required. Wire handles may be affixed to the comb-basket to lift by.

The wax comes down nice and pure, and of a pretty colour, while the dross can be flung aside, and the basket refilled. It acts all the quicker when the combs are not pressed or squeezed too solid, the steam getting the more readily to the centre of the mass.

I have not given any measurements, as these will depend on the size of the boiler to be used.

Should you approve of this method of extracting, and think it would be of any use to cottagers and others in the bee business, I shall be very glad to see it explained in your valuable *Journal*, that all interested may have the benefit. —T. H. KERR, *Sanquhar, N.B.*

FOUL BROOD.

[921.] Last autumn I had hives belonging to a friend taken to the hills, along with mine, for the heather. After their return, on cutting up combs for the honey press, I saw nothing wrong with my own, but on helping my friend with his, I discovered a foul cell here and there. I should think the worst comb did not have more than half-a-dozen bad cells altogether. I at first thought they were chilled cells, but on opening them I was soon convinced of the disease. In feeding up we used Naphthol Beta, and have kept naphthaline in the hives, and will use this remedy throughout the spring feeding. I would like to know if you think there is any fear of the disease breaking out, especially after the spring feeding has been stopped, and what other precautions you think necessary? I have kept bees since 1880, but never had foul brood to deal with. To-day (Jan. 26th) is exceptionally mild here, and all stocks have been flying strongly from 11.30 a.m. till 3.30 p.m.—W. R. L., *Liberton, N.B.*

[The critical time will come on in the month of May, when brood should be hatching in great numbers. Continue the precautions already taken, and avoid too frequent opening of the hives.—EDS.]

PLANTING CROCUSES FOR BEES.

[922.] To supplement as far as possible the supply of food for my bees, I have at various times planted or sown such seeds of flowers as are most useful, and amongst last autumn's provisioning I put down a large number of crocuses; this week, to my dismay, I have found holes cleanly made, and the young shoots broken off in and around them, the bulbs being gone! This is quite a new experience to me, for I can't say that I have ever lost any bulbs before. Peas and beans have suffered terribly from the depredations of rooks, but they are not the transgressors now. Though several blackbirds have been hopping about in the morning, I have not yet detected one at the roots, and I see no trace of any field mice. Perhaps some of your many readers may have suffered like annoyance, and may be able to enlighten one.

The upset of one of my hives on the stormy morning of December 13th has proved fatal; the bees seem to have dwindled and succumbed about the 21st. The following day being mild and warm, all the other stocks were taking an airing; but seeing only one or two from this my suspicion was aroused; forthwith I opened the hive, and to my regret found the cluster dead and dying on the floor-board. I took them up carefully and brought them indoors, thinking warmth might restore them, but it did not. The previous week I recorded six degrees of frost, and the snow was nine to twelve inches deep, not drifted. Several bees were out on the coldest day, because there was a bright sun, but, needless to say, the N.W. wind was too cold, and they perished on the snow. Seeing this, I closed the entrances every likely day whilst the snow lasted, from 10 a.m. to 2 p.m.

I am glad you put your veto on the cruel practice of clipping the queens' wings; it can hardly be too strongly deprecated.

Last year I made a self-hiver three feet by six

inches, with excluder zinc tacked on a board; placed an empty hive with comb foundation fixed directly opposite the one I expected to swarm, and rested it on the alighting-boards against the entrances. Only one opportunity offered for testing it, but the bees would not pass through; they insisted on swarming on a bush. I hope to try it again, though I do not apprehend any difficulty in capturing the swarms. I hived one swarm on large sheets of thin foundation, and it has drawn them out quite as well as the thick ones. I should not have given these but for the fact of not having thick ones on hand at the time.—J. QUARTERMAIN, *Tenby*.

METEOROLOGY AND BEE-KEEPING.

[923.] The publication from time to time of meteorological observations, and more particularly the reprint of an article from the *Standard* on 'Ten Years' Sunshine in the British Isles,' inclines me to believe you will favourably entertain a suggestion I now make. Considering that the success or failure of bee-keeping depends for the most part on the weather, it would be interesting to have reliable information to refer to, and my suggestion is, if you can conveniently adopt it, for you to give us the returns prepared by the Meteorological Office weekly, for agricultural and sanitary purposes, for the several districts into which for meteorological purposes our islands are divided. It is not necessary for me to tell you that these statistics give particulars of temperature, rainfall, and sunshine, collected and condensed into a convenient form for reference at any time.

Against the proposal I have no doubt there are some individuals of the extreme utilitarian type who will object, on the ground that the bee-keeper's 'mill,' like any other, cannot grind with water that has passed; and, as a matter of fact, cycles of weather on which we can place the slightest reliance for future guidance have not been discovered, neither can statistics be turned to any use in weather forecasting, so that the adoption of my suggestion can only be done at the cost of space which, to them, would be better occupied by matter of a more practical nature.

I am not prepared with an answer to these objections. I shall simply content myself by saying that there are other individuals, myself among the number, who value knowledge for its own sake, and are desirous of having something more than the mere statement that at certain seasons and in certain localities bee-keeping was a success or a failure. Weather is everything to the bee-keeper, and it would be interesting to know what elements, or combinations of elements, are the most favourable to his interests. With this plea in favour of my suggestion, I leave the decision in your hands.—A. DONBAVAND, *Whitby Heath, Chester, February 1st*, 1892.

[We fear that the publication of returns weekly covering so much ground as our correspondent suggests, would take up more room than our limited space allows. The monthly 'Weather Reports' furnished by a few correspondents, which already appear in our pages, together with occasional references to articles of especial interest to bee-keepers from leading newspapers, such as are mentioned above, are, for the present, as much as we can find room for.—EDS.]

Echoes from the Hives.

Northiam, Sussex, January 27th.—During the middle hours of the last few days there has been much activity amongst the bees. Just a glance at each of my stocks shows a plentiful supply of stores, and each of them appear in good heart. My strongest stock, which is in a hive with double glass at one side, now has bees on seven frames, as against nine in October.—J. M. L.

Wellingborough, Northants, February 1st.—During the spell of mild weather now visiting us the bees here have been making merry, even carrying in pollen pretty freely during the last two or three days of January. So far they seem to have come through the winter satisfactorily. In front of one hive I saw several white grubs and mature bees (young ones) thrown out dead. I am wintering with bee-passages overhead, formed by three or four pieces of three-eighth or half-inch sticks, a single calico quilt, and over this a tray with calico bottom, and four or five inches of cork-dust. Entrances full width, except in the severest weather.—W. WINTERTON.

Chester, Whitby Heath, February 1st.—Weather to-day wild, with occasional showers and sunshine. Bees out for the first time on the afternoon of the 23rd ult., and again on the 24th and 31st. Apparently wintered well; comparatively few 'dead men' for the bees to clear out, which they were doing yesterday—for amusement, I suppose! The bees in a hive that I have completely buried in chopped straw do not appear to feel the effect of increased atmospheric temperature so soon as those in hives not so covered. On theoretical grounds this might have been anticipated; still, it is a satisfactory proof of the value of good packing to keep out the winter's cold. I see from a report in a local newspaper that the Lancashire and Cheshire B. K. A. lecturer has been at work in the neighbourhood of Chester. I hope he may be successful in 'beating up' recruits. However that may be, I am curious to know where the bees are to come from, as I conjecture (for I have no statistics to guide me) that hives are by no means as plentiful hereabouts as they were some years ago. If we are to have lectures within easy reach of me, I hope to hear of them in time.—A. D.

West Kent, February 1st.—Bees have had some fine flights during the last week. All seem strong and vigorous, and I have lost none so far, my eight stocks being in good heart.—J. H. D.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

January, 1892.

Rainfall.....	1·05 in.	Sunshine..	73·20 hrs.
Heaviest fall..	0·40 „ (on 16th).	Brightest day (25th)	7·50 „
Rain fell on ..	11 days.	Sunless days, 9.	
Below average	1·37 in.	Below aver.	14·76 hrs.
Max. temp.	51° on 29th.	Mean max. ..	39·8°
Min. temp.	16° on 10th.	Mean min. ..	28·3°
Min. on grass,	12° on 10th.	Mean temp...	33·99°
Frosty nights, 23.		L. B. BIRKETT.	

BUCKNALL, LINCOLN. BM. 25.

January, 1892.

Maximum ..	54° on 29th.	*Rain*:—	0·88 in.
Minimum ..	8° on 8th.	Aver. 5 yrs,	1·26 in.
Mean max.	39·8°	In 24 hrs.	·35 in. on 10th.
„ min.	27·8°	Rainy days,	12.
„ temp.	33·8°		
„ of 6 years ..	34·4°		

A month of average temperature, very damp, and little snow. Bees flying from 24th to 31st. —J. BINT.

Queries and Replies.

[476.] *Keeping Bees in Suburban Gardens.*—I have a great wish to become a bee-keeper, and have the promise of either a stock or a swarm if I can find a place to put it. I have a small strip of ground behind my house, which is one of a row having similar garden strips, divided by wooden railings, four feet high. Do you think I could keep one or two hives of bees in such a place without their becoming an annoyance to my neighbours?—ANDREW JOHNSTON.

REPLY.—If care is used, and the bees are not interfered with at improper times, there is no reason why they should cause annoyance to your neighbours. Very much will, however, depend upon your method of managing them. Set the hive as far away from the house as convenient, and deal very gently with the bees in all manipulations, especially taking care not to irritate them by persisting in carrying out operations at times when they show signs of irascibility. If a row of runner beans (scarlet runners) could be grown on each side of the hives, it would greatly assist in causing the bees to rise high on leaving the hives, and so lessen the risk to persons in the adjoining gardens.

[477.] *Temperature for Opening Hives.*—As a one-year-old bee-keeper, I shall feel obliged if you will let me know, through the *B. B. J.*—1. Is sample of candy sent herewith what it should be? I have made it from guaranteed cane sugar, according to recipe in Mr. Cowan's *Guide-book*; but it seems to me more of a crystalline nature than what I imagine bee-candy should be. Having put up my bees for winter rather early, and, on account of cold, wet autumn, no honey brought in, I am a little afraid they may run short; would therefore like to take first favourable opportunity to give candy, supposing there to be little or no wind. 2. What is the minimum temperature at which a hive may be safely opened? One difficulty I have met with (and I do not remember seeing it referred to in the *B. B. J.* or elsewhere) is, finding the combs joined together by a sort of bridge, of half to one inch diameter. Having to cut or pull apart, I am afraid, when closing up, of crushing the bees, or, still worse, the queen, between the parts, as I use ends to keep combs correct distance apart. 3. How can I prevent combs becoming joined? I am always careful that foundation, when put in, hangs straight. 4. Is there a *Middlesex* B. K. A.? If so, will you kindly give me the address of the Secretary? My bees have taught me a good deal (in a very *pointed* fashion), but there are many things I would like to learn from the fraternity that I will not trouble you with now.—HEXAGON, *Hendon*.

REPLY.—1. Yes. If given to the bees in its present condition, it will do very well. 2. Without consulting the thermometer at all, the best guide is to only open hives when bees are on the wing, taking natural flights. If inspection is rendered necessary by reason of circumstances, the temperature should be not below 45°. 3. Only by careful management, *i.e.*, setting the hive perfectly level on its stand. 4. Yes; the Hon. and Rev. H. Bligh, The Vicarage, Hampton Hill, is the Hon. Secretary.

[478.] *Suspected Robbing.*—I have three stocks of bees in bar-frame hives, and was much pleased the other day to see they were all showing signs of life and activity. One hive, however, looked to me to be too active, so different from the other two, that the thought of the possibility of robbing suggested itself. The entrance is reduced as much as it can be, and as I am in doubt as to whether the commotion was caused by the bees not having sufficient room to get out and in or by robbers—1. Would you advise me to open the entrance wider should the same thing occur again? 2. Should I begin giving candy now that the bees are flying? 3. If you think robbing has been going on, what had I better do to put a stop to it?—IN DOUBT.

REPLY.—If the hive is moderately strong, it would quite naturally cause some crowding about a narrowed entrance. Robbing is known by the action of the bees themselves. Those that belong to the hive are seen to be defending it from intruders, and frequent tussles take place between the defenders and assailants. If these symptoms are observed, do not widen the entrance. 2. Only if food is short. It is too soon to begin giving candy for stimulative purposes. 3. If it reaches a bad stage, smear the entrance with diluted carbolic acid, and don't feed the hive attacked except after dusk.

[479.] *Artificial Pollen.*—My bees were flying out pretty strongly several days last week, and, as I am not in a good pollen district, I thought of trying artificial pollen. Would it be right to give it now, and what do you consider the best flour to give, pea or wheat flour?

Reply.—The middle or end of February is quite early enough—almost too early in a district where no early pollen is to be had—to start pollen feeding. Pea-flour is preferable to wheaten flour for the purpose.

FEEDING BACK HONEY TO HAVE SECTIONS FINISHED.

I have heretofore called attention to the fact that a large proportion of the four-and-a-quarter sections put upon the hives in the average season comes off in a state of incompleteness. Many persons have asked what to do with them, and they have been told by some to extract the honey and save the combs for another season, while others have advised to render them into wax. It is a well-known fact that combs brought over from the preceding season, and refilled, do not make first-class honey in fancy shape. The honey is stored too fast in the empty section combs, and perhaps sealed too soon.

At any rate, I have noticed—and many bee-keepers bear me out in the experience—that section honey completed in this way is more apt to sweat and damage in appearance and flavour than other honey. The fact is, I hardly think it advisable to use any more of them than is necessary to start the bees promptly in the section cases. One of these drawn combs put into each row of sections in the case is a good thing, but to use them largely has never given satisfaction in my apiary. Bee-keepers have been quick to overcome all defects and difficulties that may confront them. But it seems to me that this matter of partly filled sections has baffled the skill of honey-producers, or perhaps they have not brought their inquiries to bear upon it. For several years I have wondered how this can be, when the reports show that a large number of sections are left uncomplete every season, and consequently thousands of dollars are lost to bee-keepers annually from this cause. From what I have seen in print on the subject, only some crude experiments have been made. Our friend Mr. Hutchinson has written something on the subject, but, while what he did write was interesting, he left the impression that his experiments were not satisfactory. And I am free to say that if I had given my experience at the time Mr. H. wrote, mine also would not have been satisfactory. But I silently worked on, regardless of costs incurred by mistakes, till now I hold the key to the situation.

To succeed in feeding back, you must know just when to begin the work. Here is where I made my first fatal mistake. The feeding back must begin at the close of the honey-flow, and while the bees continue comb-building. If you postpone the work till the bees have become lean and pinched in condition, you must feed at considerable cost and loss to bring them into condition to build comb. Hence the proper thing to do is to commence when the bees are in condition, just as the honey-flow is drawing to a close, and the bees show signs of wanting to rob. I make an inventory of the probable number of incomplete sections on the hives, and proceed to select as many colonies as will be able to finish them up, allowing 200 unfinished sections to the colony. Then, if I have 500 unfinished sections, I would employ but two colonies to finish them, but if there were 600 I would prepare three colonies for the work. The fewer colonies used in feeding back the cheaper the work can be done, if you do not overtax them. Last season I made one colony finish up 256 sections after doing their part in gathering an average honey harvest. As all of these sections were trimmed and uncapped when any part of their surface was capped, the whole of them had to be drawn out and capped to finish them up. So this one colony capped a surface of 8192 square inches, or a little more than fifty-six square feet of comb surface, representing a space as large as the ceiling of a room seven feet by eight feet. I mention this to illustrate what an enormous amount of work a good colony of bees is capable of doing under favourable circumstances. Now let us return to the practical part of the experiment. As soon as the bees begin to rob at the close of the honey harvest, as many colonies as are to be used to finish up the sections are put into condition for the work. Full-sized hives are used, holding ten frames. Bear in mind that the queens lay eggs very sparingly when the workers are crowded with a continuous flow of honey; for this reason I remove all the combs containing brood but six; these are placed in the centre of the brood chamber, and the sides are filled out with combs of sealed honey. No excluder is used. The feeder goes directly on the top of the brood chamber, and the section cases are tiered on the feeder. My feeders are made the same size of the section cases as to their outer structure, except as to length. They are made so as to project at the back of the hive, to give room for the feed-holes. Each feeder contains two feed-boxes two inches deep, and are filled with climbers adjusted half an inch apart. The climbers in my feeders are not made of single thin boards, as most feeders are made, but each climber is made of three narrow pieces cleated together a fourth of an inch apart, so that the bees, when working in the feeders, can move at right angles as well as vertically.

I regard this as very important in a good feeder. When feeding back, separators in the case are essential to nice work. Therefore I use tin T-cases with tin separators. All the sections to be finished up are uncapped, if any part of them has been sealed, and they are trimmed down so as to go between the separators in good shape, and all combs that have

the strength to bear it are placed in the case *upside down*. This practice induces the bees to fill the sections more perfectly.

Fresh new honey is used for feeding back, and it is thinned down with warm water at the rate a pint and a half of water to three pounds of honey. The honey is prepared a day in advance of feeding it. The honey is weighed when preparing the feed, and before the water is added. Each colony is fed once a day from three to four pounds of honey, not counting the water. The feeding is done late in the evening. Those persons who have failed to feed back with profit have failed by feeding too fast. I know this is true, for I have *paid* for the information. At first one case of sections is put on the hive, and when it is pretty well advanced, and the sealing has begun, it is lifted, and another case is placed under it. In other words, you 'tier up' just as that system is practised during a good honey-flow. If the bees should lose their heads and swarm, make them go back home, and take off the feed for two days. This will cure them.

I would never fail to clip the queen's wings of any colony that I use for this purpose. Two out of three colonies will run wild when fed by my slow, steady process. But I have only lost about two days' time in any case. Last season I had 500 sections from a quarter to a little over one half filled, finished up at a good profit on a margin of four cents' difference between the extracted honey and fancy comb. And, as an experiment, I had ninety-six sections built from the foundation starters at a loss of about twenty-five per cent. on the extracted article.

These are the essential points to 'feed back' successfully:—

1. Commence immediately after the honey harvest has failed.
2. Feed new honey before granulation begins.
3. I obtain the best results by feeding but three pounds a day when there is much comb to be built.
4. Have a good feeder, such as I have described, so as not to disturb or excite the bees, and remove the finished sections a whole case at a time, using the automatic bee-escape to run the bees out of them.
5. Feed regularly at the same time of day, and neglect nothing in connexion with the work.—G. W. Demaree *in the 'Canadian Bee Journal.'*

CARRIER BEES.

Where will the imagination of inquiring thinkers ever stop? We already had carrier pigeons, swallows as harbingers, now we have bees and wasps as messengers. A bee-keeper of the Gironde, M. Teynac, formed the idea of ascertaining whether insects might not be capable of performing, within a small radius, what birds do at a great distance, namely, carry messages. Experiments are always interesting.

Numerous observations have established the fact that if a swarm of bees is enclosed in a box, or other recepticle, and carried to a distance of from two to three miles from the hive, any of the bees which have regained their liberty will soon take flight in the direction of their hive. Those more rapid than the rest will traverse the intervening space in twenty or twenty-five minutes, which corresponds to a speed of about eight miles an hour.

Starting from this fact, M. Teynac has led the way in the introduction of carrier bees. Suppose the owner of a swarm wishes to initiate intercommunication with a person several miles off. He will first of all send him a small hive for conveying the bees. It is a box with a cover of wire netting, provided on one side with small holes that can be closed with a hinged lid. The bees are put in through these holes. The little box is so light that it can be sent bp post. On reaching their destination, the insects are set free in a room provided with honey for their use. Whilst the bee is regaling itself, a minute dispatch, prepared beforehand, is fixed on its thorax. This dispatch is a light and short leaf of paper, split with a chisel, so as to form two feet, which are coated with isinglass.

The bee is seized, and the paper applied quickly so that the glue touches neither the head nor the wings. After this the insect is set at liberty, and it unhesitatingly sets off in a direct line towards its former domicile. There it meets with an unexpected obstacle. In front of the doorway of each hive a small tin box has been placed, which is pierced on one side with holes just large enough to allow a single bee to pass through. But the latter, embarrassed the dispatch which it bears on its back, like a rigid wing, makes unavailing efforts to pass through. It is obliged to wait until it is relieved of its burden. In this way M. Teynac has several times successfully experimented.

[A correspondent requests us to insert the above as possessing some interest for bee-keepers, and, although much of the substance of the article has already appeared in our pages, we insert it as showing that M. Teynac has carried his experiments still further.—Eds.]

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements.

A. S. (Ballindalloch).—Comb sent is affected with foul brood of a bad type. All the combs and frames should be at once destroyed by burning, and the hives thoroughly disinfected.

H. F. W., Jun. (Blackheath).—*Queen Excluders.*—Some bee-keepers dispense with queen-excluders when working sections, but nearly all are agreed as to their advantage below surplus chambers when working for extracted honey. 2. You should read the article on feeding bees in *B.J.* for January 15, 1891.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

THE BRITISH BEE-KEEPERS' ASSOCIATION.

ELECTION OF COMMITTEE FOR 1892.

We invite attention to the alteration in date of the Annual Meeting, and trust to see a full attendance thereat. In view also of the useful work which it is hoped will fall to the lot of Bee Associations in the present year in connexion with the extension of technical education, it is of the utmost importance that a strong working Committee of the Central Association be elected for 1892. We therefore urge members to use their votes in respect to the coming election. Several new names will, we understand, be submitted for approval, and, as the infusion of 'new blood' is generally supposed to have the effect of giving increased vitality to ruling as well as other bodies, it is gratifying to find desirable candidates coming forward who are willing to give the necessary time to the work.

It is in no way depreciatory of the valuable labours of those who have served on the Committee for many years past, nor does it lessen our appreciation of their work, to say that we believe that some, at least, of them will be glad to be relieved, and will most willingly retire if younger men are found to fill their places. We therefore believe that we do but echo their sentiments if we hope to see several new names among the Committee for the current year.

BRITISH BEE-KEEPERS' ASSOCIATION.

In consequence of the protracted illness of the Chairman and the Secretary, it has been found impracticable to hold the Annual General Meeting of the Association on the 17th inst., as previously arranged. Up to, and including, Saturday last, the Secretary had been confined to his bed for a full fortnight. The Chairman, Mr. Cowan, has communicated with the President of the Association, in reference to the situation, and her Ladyship has fixed Wednesday, March 16th, at 3.30, for the date of the meeting. Meantime, voting papers will be sent out for the election of the Committee for the ensuing year.

THE YORKSHIRE BEE-KEEPERS' ASSOCIATION.

The Annual Meeting of this Association was held on the 6th instant at the 'Wheatsheaf Hotel,' Leeds, under the presidency of the Rev. F. Burnham, vicar of Moor Allerton, near Leeds. The interest of the affiliated branch Associations was shown by the presence of Mr. A. Woodhead (Goole and District B.K.A.), Mr. A. C. Jemieson (Ebor Branch), and Mr. N. F. G. Burmston (Horsforth Branch).

After the passing of the accounts for 1891, the Hon. Secretary (Mr. R. A. H. Grimshaw) read correspondence intimating the demise of the Hull Branch, the cash balance and properties being handed to the Yorkshire B.K.A., receipt of which was acknowledged in the *B.B.J.* and *Record*, as requested by Mr. H. E. Holmes, the late Hon. Secretary of the Hull and District Branch.

The correspondence respecting the non-passing of candidates for third-class certificates at the Show of the Yorkshire Agricultural Society was next read. The meeting was then informed of the decision of the Knaresborough Branch to cease subscribing to the parent Association.

After the Hon. Secretary had read the communications he had had on the question of County Council grants in aid of technical education, his action was approved by the meeting, the unanimous opinion being that all possible should be done to draw the grants towards Bee-keeping Associations, instead of allowing them to lapse, under the heading of agriculture, into other channels.

A proposal was then carried unanimously that the thanks of the Association be offered to G. H. L. Rickards, Esq., for giving his services as lecturer at the county show, the Hon. Secretary being incapacitated by illness.

After passing a vote of thanks to the Chairman, the business part of the meeting was brought to a close.

THE GOOLE AND DISTRICT BEE-KEEPERS' ASSOCIATION.

The Annual Meeting of this Association was held on the 2nd inst. in the Schoolroom, Christ Church, Goole, Mr. C. Chappell presiding. The Secretary, in his report, reviewed the work done by the Association during the past year. The monthly copies of the *Record* distributed amongst members for their perusal seem to be appreciated, and result in much good by keeping its readers acquainted with all important matters connected with apiculture.

The grand display of honey made by local exhibitors at the late show proves that the efforts of the Society have not been in vain.

The balance-sheet shows a cash balance of 5*l.* 16*s.* to the credit of the Association, notwithstanding there being a loss on the show.

Special honey labels have been printed bearing the name of the Association, and a space for the producer's name and address, and will be sold to members.

The following officers were unanimously elected:—President, R. S. Scholfield, Esq., J.P.; Vice-Presidents, Dr. Arbuckle, Mr. C. Chappell, Mr. G. L. Rockett; Hon. Treasurer, Mr. J. J. Wise; Hon. Secretary, Mr. A. Woodhead; Committee, Messrs. W. Chester, D. Hopley, Lambert, G. Roberts, E. Wainman, and C. Watson. Votes of thanks to retiring officers and the Chairman brought a pleasant meeting to a close.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of January, 1892, was 13,188*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

LECTURE ON BEE-KEEPING.

On Tuesday night, the 26th ult., the Rev. J. Phelps, vicar of Houghton, delivered a lecture before the members of the Brampton Literary Society, in the Boy's Clubroom, on 'Bees and Bee-keeping.' The Rev. S. Falle presided. The lecturer expressed his pleasure at the presence of ladies, and remarked for their encouragement that one of the best and most successful bee-keepers in Cumberland was a lady, the wife of the present Chief Constable. The lecture was illustrated with diagrams, and at the close Mr. Phelps received a vote of thanks.

BEE AND HONEY FIGURES.

The largest bee-keeper in the world is Mr. Harbison, of California, who has 6000 hives, producing 200,000 pounds of honey yearly. In Greece there are 30,000 hives, producing 3,000,000 pounds of honey; in Denmark 80,000, producing 2,000,000; in Russia 110,000, producing the same; in Belgium 200,000, producing 5,000,000; in Holland 240,000, producing 6,000,000; in France 950,000, producing 23,000,000; in Germany 1,450,000 and in Austria 1,550,000, each producing 40,000,000 pounds of honey. But in the United States there are 2,800,000 hives, belonging to 70,000 bee-keepers, and producing 62,000,000 pounds of honey yearly.—*California.*

PREVENTION OF SWARMING.

There are many *desiderata* in bee-keeping yet. If we could get rid of the stings, many of us would be entirely happy in our apiaries. If we could be sure of a good season every year; if we could keep a lot of silly bee-keepers from spoiling the market by underselling, putting inferior goods on it, and other foolish practices; if we could prevent adulteration; if we could bury the Wiley lie a thousand fathoms deep; and if we could divorce the bee-periodicals from the supply business, there would be a kind of bee-keepers' millennium. But it would be incomplete without a method of preventing swarming. That is the chief *desideratum* of all. The anxiety of watching; the suspense of not knowing at what moment any number out of 100 colonies will rush frantically into mid-air; the disorder and suspension of work occasioned by the 'swarming fever' when it breaks out in an apiary; these and other considerations make it very desirable to prevent swarming, if it can be done without an injurious revolution in the habits of bees.

What causes swarming? Is it a normal or abnormal thing? I used to think it was normal; now I doubt it. Have we any well-authenticated cases of bees swarming when their home was in a roomy tree-trunk, a large cavity in a rock, or a spacious attic? Is this one of the bad habits they have acquired under man's manipulation? Have we crowded them into small receptacles where they cannot increase and multiply *ad libitum*, or have not elbow-room to work freely? Is it like the emigration of human beings from the over-populous countries of Europe? Some point to the enthusiasm with which bees start a new colony as proof that swarming is normal. You might as well cite the energy and enthusiasm of settlers in a new country. But they left the old home with pain and tears. How do we know that our bees do not have a weeping-time before they become convinced that there is nothing for it but to go forth and seek a new home? The queen, we know, vacates her throne reluctantly, and with regret. Emigrants often forsake their native land because of oppressive circumstances that leave them no option but to depart. Mayhap bees leave the old hive for a similar reason.

My home apiary is an out-apiary, being a mile away from where I live, in the suburbs of the city. During the past season I have experimented much in regard to the prevention of swarming. Having about a hundred frames of empty comb on hand, I took six of my strongest colonies, and gave them plenty of space to mul-

tiply brood and store honey. Only one of the six showed any disposition to swarm, and that one did it under circumstances that made it suggestive, if not conclusive, as to the cause of swarming.

I transferred a colony from an ordinary eight-frame Langstroth hive into a Root chaff hive. The queen and one frame full of brood were put in the lower story, nine frames of empty comb also being placed in the lower story. Then a sheet of queen-excluding zinc was laid on. Into the upper story were put the remaining seven frames of honey and brood, with seven frames of empty comb.

The bees worked like Trojans until towards the close of the honey harvest. One afternoon, about three o'clock, they started to swarm. By an active use of the sprinkler they were stopped in their mad career. So soon as they had settled down, I opened the hive, and found every frame in the upper story full of sealed honey. Not a square inch of storage-room was left. I took out five frames of honey, and replaced them with five empty frames, having inch starters.

'Now,' I said to myself, 'I shall find out whether those swarmed for want of more room.'

I could hardly sleep that night for interest in the outcome of the experiment. I longed for the daylight that I might see if my bees would resume work, and give up all idea of swarming. That is what they did. The honey season shut down before they got the five frames completely filled, and the bees gradually subsided into a state of leisure.

Other experiments proved that the bees swarmed because crowded, or because they were too hot. In one case a colony that had made no preparations for swarming issued from the hive, clustered on a tree near by, and, after having cooled themselves off, returned to their home. As I watched them hanging, I thought what a helpless-looking sight they were, and what a striking picture they would make with the title, 'Far from Home.'

I read up all I could find in the bee-books about swarming, and when I found in John Keys' old work (1814) this brief passage in a paragraph about the troubles of swarming-time, 'These disadvantages are admirably remedied by storifying,' I said to myself, 'How much progress have we made in regard to this matter during a lapse of seventy-seven years?' Bee-keepers knew even then that additional room would prevent swarming. How much more do we know about the matter to-day?

For the past few months I have been cudgelling my brains in search of a beehive capable both of expansion and contraction. But I have no inventive genius. Happily others have, and I do not despair of such a hive being discovered. Indeed, I am not sure that it has not already been devised.

The *American Bee Journal* recently told us that a Mr. Allpaugh had patented a device which looks in this direction. 'A Mr. Allpaugh seems to suggest some obscure bee-keeper unknown to fame, but I must tell you that he is one of our foremost Canadian bee-keepers—a quiet, unassuming man, but possessing the inventive faculty in a high degree. He ties to nothing that is not practical and useful. I am not possessed of his secret yet, but mean to have it so soon as I can scrape up five dollars wherewith to buy it. Right on the back of this comes Mr. John Conser's non-swarming hive, described and figured in the *American Bee Journal* of November 26th. Will either of these inventions, or both of them, 'fill the bill?' We shall see.

The prevention of swarming is comparatively easy when you work for extracted honey, because you can 'storify' if you have frames of empty combs. You can alterate these with frames having only starters.

But to get comb honey by means of added space—aye, there's the rub. The bees do not readily take to building new comb in section-boxes. Why is this? I believe it is because of the inconvenience they find for want of room to work. In comb-building a relay of bees hang in festoons that reach clear across the hive. Another relay brings honey, and feeds the festooned workers. A third relay takes the pellicles of wax from the festoons, and builds the cells.

When all this has to be done within the limits of a one-pound section, it is 'mighty onconvenient' for the bees. They are 'cribbed, combined, and confined.' Cannot some inventive bee-keeper give us a section frame with narrow partitions, just wide enough to induce the bees to finish the sides of the sections? Or cannot we get the public to buy sections reaching clear across the hive, and holding four or five pounds? Or cannot we have cartoons, into which a pound of cut honey can be put, and hermetically sealed to prevent leakage?

The public prefers honey in the comb. There is a suspicion, possibly, of adulteration in the case of extracted honey. If we allow our extracted honey to be capped all over and thoroughly ripened, which is necessary to 'get the best,' we cannot produce extracted honey at much less cost than we can comb honey. Then there is the daubing and mess more or less connected with the process of extracting. The most unassuming bee-keeper gets considerably 'stuck-up.' It is well known that I am heretical enough to wish that the extractor had never been invented. I use it as little as possible, and if I can find a way of throwing all the force of my apiary into the production of comb honey, I shall dispense with it altogether.

This is as far as I have got. I know that swarming can be prevented by giving the bees room to work, as they require and crave to use it, but how to manage this in such a way that they will do their level best in the production of marketable comb honey—well, this is what, Dr. Miller-like, 'I don't know.'

I want to add a word on the 'swarming fever,' as bee-keepers call it. There is such a thing. It is a perfect mania when it takes possession of a colony or an apiary. A colony will swarm

and swarm, and swarm again, no matter how comfortably you may house them.

I flattered myself during the past season that I had discovered a cure for this fever. I take my swarms in a swarming-bag of my own construction. The bees drop into it, and a twist of the bag makes them prisoners in a moment. By hanging a bag of bees on a fence, and leaving them all night, the fever will cool off.

I should say the bag is made of cheese-cloth, so that there is no danger of the bees being smothered. On hiving the captured swarm the next day, they hasten into the home provided, marching to the music of a contented hum, which says, as plainly as words can speak, 'Oh, how thankful we are to be housed once more!'

But, after all, prevention is better than cure, and I prefer to keep my bees from taking the fever, instead of doctoring them after they have got it.—W. F. CLARKE *in* '*Bee-keepers' Guide.*'

'BIRDS OF A FEATHER FLOCK TOGETHER.'

The company men keep shows what men are, and makes them what they are to be. It shows character and forms it. Men are drawn to those whose tastes are like their own. They catch, without knowing it, the ways of thought and feeling of those with whom they live, or whose work or amusements they share. Through the books they read, the influence of the writers reaches heart and mind. What does not improve, harms; what does not lift up, lowers. Man's life is short, and is a 'walking,' a going on. Companions should be chosen whom it would be well to learn from and to grow like.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THIN-WALLED HIVES.

[924.] We have heard from time to time of the wonderfully successful wintering of bees kept in hives insufficiently provided with what we understand as proper protection; in many cases, nothing whatever has been done in the way of winter packing. Frames have been left apart, giving bees access to any part of the hive they pleased to visit away from the brood nest; section crates and other supers have been left on all winter, either through accident or design, and quilts have been left turned back all the time. With these apparent disadvantages against them, well-authenticated cases have shown how bees have come through winter all right, even strong. Bees have even been known to winter in open combs, built under a floor-board, and in hives quite open at the bottom to the air. The next better home to this we can give them—that is to say, the next better-protected home (whether for their welfare or not is, of course, a matter of opinion)—is the hive, the wood-work of which is as thin as possible compatible with the necessary strength. Bees have wintered well in these. Advancing in protected homes, we give plenty of porous quilts over the brood nest, leaving the entrance wide. We follow these with hives having narrow entrances during winter; then with impervious quilts on which are placed plenty of warm quilting weighted down with a square of wood. In this case, we leave the entrance open full width all the winter. Going still further in the way of securing the bees against variations of temperature, we give a solid thick wall of wood. Next, on this we think we improve by making hive walls double, enclosing between them a falsely-called 'dead-air space.' As it is almost impossible to get the benefit of the non-heat-conducting power of a stratum of air without the space between the hive walls being perfectly air-tight, we feel obliged to pass on to filling the space with non-conducting material, such as chaff or cork dust.

All this is proceeding on the understanding that the more steps we take to preserve an equable temperature in the brood nest, rendering it less and less susceptible to the many changes of a changeable climate, the likelier we are to bring our bees through the winter, well and strong in spring.

To those who are still (strangely enough to my thinking) wedded to the idea of successful wintering in thin-walled hives, I would say make a comparison between this treatment and that accorded by the most successful rearers of any of the many animals man has taken under his protection, and see if, in the changeable climate of these islands, steps are not always taken to secure warm wintering (always having regard to sufficient ventilation) by housing them, at night particularly, in places having thick or non-conducting walls, which prevent the heat generated by the food from being radiated and dissipated into space. Given a dry atmosphere (yes, but we cannot get much of this in Great Britain!), I admit that man and most other animals can survive extraordinary degrees of cold; but does it not stand to reason, as life heat is produced by food—or stored fat, which is the same thing—and the heat of an exposed body is parted with to the colder surrounding air, that the better non-conducting skin we interpose between the animal and the air, the more we are

helping it to survive, and the more we are economising its food store? Horses, cattle, poultry, pigs—and men—are the better for their thick, cosy wintering houses, and I do not see why it should not apply in theory to bees also. It does in practice. I should like those of your readers (if there are any) who adhere to the thin-walled theory not to visit their hives after a sharp frost to clear away the dead bees, and see how many will come well through winter, *if they are not afraid of wholesale loss.* Thick-walled hives, with chaff or cork jackets, having doors open full width, need little or no such attention.—R. A. H. GRIMSHAW.

NOTES BY THE WAY.

[925.] I trust our bee-keeping friends have read, or will read, the Doolittle article on p. 39. I consider the case is very plainly stated in the article, and those amongst us who have stimulated brood-rearing by every means in their power should think and calculate if the produce of their labours and cash is likely to be of any practical worth to them. The successful apiarian is he who works for a purpose, and has a reason for what he does; therefore I say study well and profit by the practical results of the labour and recorded experiences of others who have made progress in the work or craft.

Honey-comb Designs.—These require considerable thought and contrivance on the part of the bee-keeper to turn them out presentable or fit for exhibition. The style of design and the size of our supering-space over the colony must perforce determine the amount of detail we shall be able to get in our design when completed in honey-comb. I have worked several V.R.'s surrounded with a crown, and the crown and V.R. enclosed with a border of honey-comb; also the Prince of Wales's feathers, with *Ich Dien* under; also R.C.A.S., 1887, or 1888, as the case may be; and R.A.S.E., 1889, and 'Jubilee,' all enclosed in a border of comb. I generally fix starters of foundation on a square of glass—though not always, but that is the most simple way; then confine the bees by dividers to the space you wish the design to cover or your letters or figures to assume, and the bees will complete the rest, if the weather is right, in about ten days. I generally start the job over a strong stock, and, as soon as the bees have begun, I put a crate of sections on the hive under the design. I may add, these designs (or fancy comb of any kind) do not pay the bee-keeper to produce, though they are very attractive at a show, or a centre in a window of a tradesman who deals in honey. (I send the above note in answer to our Editors' query from a reader.)

Screens for Hives.—I find a row of artichokes a capital screen by the roadside to compel my bees to clear the road, out of the way of pedestrians and vehicles, and the row of artichokes also forms a good shelter to bees returning home laden when the wind is in certain directions. These wind-breaks are also useful to the apiarian, as he can manipulate his hives without being overlooked by inquisitive wayfarers or troublesome neighbours, who are ever on the alert to see 'what the Browns are doing over the way,' and wondering 'where all Mr. Brown's honey can come from.' These and suchlike wind-breaks, even if only formed of brushwood, pea-sticks, &c., coupled with the newly introduced super-clearers and swarmers, places bee-keeping within the reach of many among our suburban friends who would otherwise fear to keep bees because of the proximity of neighbours. The honey-taking in the past has often proved a most troublesome part of the business, but it is now reduced to a minimum job so far as disturbance of the bees is concerned.

Now is the time to 'place' your orders for appliances, and if you have never tried a super-clearer, try one this year, and I feel sure of your thanks later on for drawing your attention to so useful an article in the apiary. I consider that to many bee-keepers, who have neighbours like Mr. Johnson (p 48, *B.B.J.*), with gardens running parallel to theirs, and often with other gardens abutting from houses in the next street, the super-clearer is as indispensable as the smoker. Don't forget to send your wax to be made up into foundation this month, if you want it back in time for use this spring. I am sending some to the old reliable foundation-making quarters situate at 'Holme,' where I have sent for several seasons, and with such uniform success.

I have no interest whatever in super-clearers, swarm-catchers, or self-hivers, or in foundation. What I write, and advice I tender, is solely for the benefit and advancement of our 'bee-craft.'—W. WOODLEY, *World's End, Newbury.*

CELL-BUILDING ON WIRED FOUNDATION.

[926.] I send you a piece of wired comb. It is not wired as is usually done, but it answers my purpose. However, my object in sending it is to show how beautifully the bees have built up the cells round the wire without in any way spoiling their symmetry. In some cells you will see an attempt made to have a false bottom, but the bees must have given it up in despair, as they could not get their heads round the wire. I would have expected to see the cells, where they came in contact with the wires, irregular in shape, but there is no appearance of that.—T. McC., *Annan, N.B.*

HANDLING HIVES INSTEAD OF FRAMES.

[927.] An editorial observation made a short time ago on a matter which seems to be much discussed in bee-keeping circles, viz., 'Handling hives instead of frames,' recalled to my recollection an article which appeared in the *Journal* some time since (p. 439, 1891). I read this article at the time with much interest, and felt

disposed to venture a few comments on it, but, for some reason or other I neglected doing so, and the matter eventually dropped out of mind; but your remarks recalled it to my memory.

At the outset, I must state that I know nothing whatever of the American Heddon hive, or the German straw skep, and, by this admission, some may say I am not competent to criticise. Whatever the reader's opinion on this point may be, I believe I am entitled to a hearing, because I can claim to have had a fairly extensive experience as a bee-keeper with large straw skeps, which are not materially different, by description, to the Luneburgian straw skep mentioned by the writer of the article referred to. It was with large straw skeps that I learned my A-B-C lessons in bee-keeping, and I have still a kindly feeling towards them. They are cheap and convenient receptacles for the bees, which, generally speaking, do well in them, summer and winter alike, and they are a hive that even 'advanced' bee-keepers need not despise. It is not my intention, however, to dilate on their good points; it is the matter of 'handling' that I purpose speaking of, and here my impression is that my experience will not be much different from that of others who have tried 'fixture' hives of other types.

At the commencement of the season, the hives my remarks refer to generally weigh something less than thirty pounds' weight apiece—that is on the assumption that they went into winter quarters with a good supply of provisions. While at this weight it is easy to turn them up for internal examination, and, if a suitable time is chosen, an experienced bee-keeper can make a generally accurate diagnosis of the welfare or otherwise of the stock. If sealed brood be present, a glimpse may occasionally be obtained of it. I say a 'glimpse,' for I believe those who have knowledge here will agree with me that it would be absurd to call it anything else. Eggs or larvæ are not to be detected unless, by the merest chance, they are close to the edges of the combs—a condition which never obtains except the hive be choke full of bees. To say that an examination of a hive made in this way is as satisfactory as that made by separating the combs in a frame hive is a contention no person acquainted with beehives would ever make. To catch sight of the queen in a fixture hive is difficult, and the trouble of driving or shaking the bees out in order to do so gives more trouble, and makes more upset, than does any manipulation in a movable-comb hive to effect the same object.

As the season advances, and if the bees thrive as they should do, the difficulty of handling fixture hives greatly increases. The fatigue, in my own case at any rate, of handling bodily hives of sixty to eighty pounds' weight is great, and on this account I like to see natural swarms issue. Artificially swarming a strong and heavy hive on a hot summer's day is not a pastime I care to frequently indulge in, whereas, on the other hand, handling hives with movable combs is at any time easy and convenient.

A good deal is made of the saving of time effected by handling whole hives instead of the separate frames. Some bee-keepers would have us believe that their time is more precious than gold-dust when they assert that the necessary manipulations of movable-comb hives waste time, and as for the argument based upon the non-disturbance of quilts to prevent the loss of heat from the brood nest, it is too thin-spun to bear the wear and tear of ratiocination. Careful bee-men do not disturb hives more than expediency requires; 'masterly non-interference' is the rigid rule observed.—A. Donbavand, *Whitby Heath, Chester, February 6th*, 1892.

DRONE FOUNDATION.

[928.] Referring to my letter (906, p. 25) on drone foundation, may I be allowed to say that I should be much obliged if any bee-keepers who have tried this foundation in sections or shallow-frame supers would state results? I should doubt its having been used at all recently, as in the last four years I have neither seen nor heard of it. I had no idea it had ever been made.

Perhaps Mr. Woodley, in the next of his always welcome 'Notes,' will kindly let us know why he thinks the use of drone foundation would specially render an excluder necessary. I had hoped it would be the other way; seeing that, as Mr. Dadant says, 'the preference of the queen for worker cells cannot be disputed.' Why, then, should a queen in thorough fertile condition go out of her way to seek cells for drone eggs?

Having myself but a poor appetite for wax, my ideal section must have even cells as broad as bees can be induced to build them; say, with bases the average length of a bee across. I can see no mechanical reason why bees could not pull out such foundation, and I believe they would do so sooner than alter it. Surely, in this case we might dispense with excluders.—South Devon Enthusiast.

[Our own experience confirms that of Mr. Woodley. Queens are most persevering in seeking out drone comb wherein to deposit eggs as the natural swarming-time comes round, and will enter surplus chambers in search of it if not prevented by the use of excluders. If comb foundation with abnormally large cells started thereon were given to bees they would assuredly 'alter it' to cells of natural size, either worker or drone.—Eds.]

NOTES FROM IRELAND.

[929.] My time being so much occupied with business duties, I have not been able to send you a jotting as often as I would like to have done. My remarks, therefore, must go back over the past twelve months, reviewing, as it were, what has taken place since then. Just a year ago this month there passed from our midst the Rev. J. McNeece, the most respected and promising bee-keeper in our locality. His loss was keenly felt by all who knew him. Shortly after this event,

Mr. W. G. W. Flynn removed his residence and apiary to Banford House, Gilford; he retains his position as the largest bee-keeper in the district, and during the past season won numerous prizes at many of the leading shows. At present his fifteen stocks are in splendid condition, and likely to be heard of during the coming season.

Still advancing, Mr. W. J. Davidson, station-master, at considerable expense laid out a fine apiary, where I had the privilege of keeping my own stocks, on a portion of ground belonging to his employers, in close proximity to the railway station. The results were most gratifying, and were the talk of the public, how so many bees could be kept without becoming a nuisance to the travelling public. Mr. Davidson, only two months ago, obtained promotion, after ten years' faithful service, to Co. Tyrone, where we hope his love for the bee-keeping hobby will not diminish. Previous to his leaving the district, he was presented, by his many friends in Laurencetown, with a purse of sovereigns, as a token of the respect in which he was held.

In September, in connexion with the Castle Douglas Show, the writer was successful in carrying from the 'land o' cakes' and Gallovidians the much-coveted prize and silver medal for three jars of honey, clearly demonstrating that the Emerald Isle can hold her own in the production of fine honey. Many similar honours were obtained by the man you know during 1891, and after paying a visit, in company with Mr. Flynn, to Carlingford, and inspecting Miss Rutherfoord's apiary there, and several others in the vicinity, the impression left, I do not flinch to write, is that Ireland, with a favourable season, can fully hold her own in the bee-keeping world in the production of genuine honey. Some statistics and items I hold over for future 'Notes,' wishing the Editors of the *B.B.J.* and *Record*, and bee-keepers in general, all prosperity during the present season.—JOHN D. MCNALLY, *Laurencetown, Co. Down.*

PREVENTING SWARMING.

[930.] I have recently started bee-keeping, and I commenced taking in the *Bee Journal* with the last new volume, and I find a lot of useful information in it. My stock consists of two skeps and five frame hives. Four of the latter are stocked with driven and united bees, three lots in each hive, and they cost me several shillings to feed them up; but they have all survived the winter so far. If I am successful in bringing them safely through till spring, I wish to prevent them from swarming. 1. Can this be done? If so, which is the best method? I once heard a bee-keeper say, 'Let the first swarm come off, then cut out all queen-cells from the parent hive, and return the swarm.' He said they would not come out again. My hives contain from nine to twelve frames in each, and room for tiering crates, as I wish to work for section honey. I lend out my *Bee Journals* to my neighbours, and some of them are waiting to see what result I get from mine. I hope to be successful, as I may probably get a few orders for swarms another spring. I am situated among the Mid-Sussex market gardens, where there is a good variety of fruit-trees, and a fair quantity of heather about a mile away. 2. Have you ever heard of straw skeps being inverted? I read in a gardening paper something about working frames for extracting on the hive when bottom upwards, and it prevented them from swarming.—A SUSSEX BEGINNER, *Pulborough, Sussex.*

[1. There is no infallible method of preventing swarming, and a description of the various devices put forth for securing that desideratum would take up more space than we can afford. Broadly speaking, however, it may be said that the main preventives are (1) young queens, (2) giving timely room and ventilation, (3) keeping the bees well occupied with comb-building, and (4) removal of queens yearly, and cutting out all queen-cells except one. 2. Yes, frequently. The plan described has been put forth, and has been followed in some cases with success, but it is one we do not recommend.—EDS.]

CREATING A HONEY MARKET.

In our monthly, the *Record* for February, we printed the substance of a circular sent to us by a correspondent who has succeeded in establishing a market in his own neighbourhood for all the honey he can produce. As our correspondent believes that the circular referred to had largely assisted in bringing about this result, it was suggested that we should have it printed in the form of a small eight-page pamphlet, and supply these to bee-keepers at a cheap rate for using in the way mentioned as a means of increasing their home honey trade. We agreed to do this on condition that there was a demand for copies, and, as several applications have been received, we have decided to comply with the suggestion, and will be prepared, after next week, to supply them in quantities of 100, 250, 500, or 1000, at prices which will appear in our next issue.

The circular reads as follows :—

HONEY AND ITS USES.

It is not always clearly understood to what extent plant and bee are respectively concerned in the production of honey.

Honey is not, as many people suppose, produced by the plant, neither can it be said to be made by the bee. A sweet liquid is secreted by flowering plants which is called nectar. This the bee is enabled, by means of its beautifully adapted mouth organs, to extract from the nectary. But it it is not yet *honey*. The nectar passes from the mouth of the bee to the honey-sac. And it is here that it undergoes

that chemical change which transforms it into honey. From this receptacle it is disgorged on the return home, and stored in the cells of the honey-comb, where it is allowed to remain till the excess of water it contains is got rid of by evaporation, before it is finally sealed over.

But whether concerned or not with the scientific details of its production, the mind of man has, at any rate, never been slow to apprehend one fact—namely, that honey is exceedingly good to eat. And he has accordingly, from time immemorial, taken care to appropriate as much as possible of it to his own use.

From the remotest times honey has been valued as a wholesome and nourishing food, and the habitual use of it is generally regarded as highly conducive to health. So thoroughly, indeed, were its valuable properties appreciated that it is mentioned by old writers, along with flour and milk, as one of the necessaries of life.

Apart from the consideration of the many other valuable properties claimed for honey, the following facts, which seem well authenticated, must certainly go far to recommend its use as an article of food:—

1. The sugar of honey, being in the most suitable form for assimilation, requires hardly any digestion. It is in a condition to enter at once into the system.

2. It is, in a usual way, not liable to occasion any disorder of the system, and may therefore generally be used by those with whom ordinary sugar is found to disagree.

3. The grape sugar of honey does not cause decay of the teeth as cane sugar does.

These statements, of course, have reference only to honey that is absolutely *pure*. Erroneous opinions and much mistaken prejudice have unfortunately arisen with regard to the use of honey, owing to the unpleasant effects upon many persons of the various compounds, consisting chiefly of glucose made from potatoes or rice, and sulphuric acid, which of late years have been in such large quantities sold as a substitute for pure honey. It is of the greatest importance, if its beneficial effects are to be enjoyed, that the honey consumed be pure.

Till comparatively recent times honey was the chief sweetening agent in use. After the introduction of cane sugar, however, the use of honey, in this and other countries, largely declined. But there is no doubt that of late years it has been more and more realised that pure honey does possess qualities which it is impossible to replace. There has been a larger and ever-increasing demand for it, till there seems every prospect of its coming again into general use in every household. Thousands of tons of honey are now annually consumed in this country, while in North America alone it is estimated that more than a hundred million pounds are produced every year.

But it is not only as a palatable and nourishing food that honey has again come to be so highly appreciated. It is now pretty generally acknowledged to be a really valuable medicine. And when we bear in mind that the nectar gathered by the bee is a secretion in which we may expect to find the essential virtues of the plant from which it is obtained, that there is more or less pollen always present, and that when converted into honey it contains, in addition, a certain amount of formic acid, we can easily account for its wonderful medicinal properties.

Honey is especially recommended as likely to be beneficial in case of dyspepsia, rheumatism, asthma, hoarseness, shortness of breath, and all affections of the chest. Consumptive people are known to have derived great benefit from its continued use, and it is said to have been recently often used as a substitute for cod-liver oil with very satisfactory results.

In bronchitis great relief may be obtained by taking a small quantity at frequent intervals. The regular use of it is said to aid digestion and to strengthen the nerves. As a gentle laxative and purifier of the blood, no better medicine can be taken, while its peculiar acid property has caused it to be generally recognised as a valuable medicine in cases of sore throat. Indeed, for coughs, colds, and all affections of the throat, it is universally acknowledged to be the best of remedies.

Not only, then, as a nourishing and wholesome food, but as a useful medicine, does honey possess very valuable properties. And so we can readily account for the high estimation in which it is so generally held; we can understand how the regular use of it came to be regarded in olden times as a preventive of disease, and as a means of securing health and long life, and we are not surprised at the recommendation of it by the wise king—'My son, eat thou honey, because it is good' (Prov. xxiv. 13).

Honey will keep, without in any way deteriorating, for months, or even years.

The candying of honey in cold weather does not impair its properties. By many it is preferred in this state. It can be made liquid again, if desired, by placing the jar in a vessel of hot water.

Honey is especially valuable for children, both as a medicine and as a wholesome and nourishing food.

Honey can be used in cooking just as sugar is used, many things being greatly improved by the addition of it, such as fruit pies, pastry, puddings, cakes, &c.

It will be found to have the effect of keeping cakes moist and fresh for a very long time.

Any summer drink is improved if sweetened with honey.

Honey should be kept in a warm, dry place.

Recipes.

Honey Lemonade.—Make it in the usual way, using honey instead of sugar. This is very refreshing as a summer beverage.

Honey Tea Cakes.—Take one and three-quarter pounds of flour, three-quarters of a pound of honey, a quarter of a pound of sugar, a quarter of a pound of butter, a quarter of a nutmeg

grated, half a tablespoonful of ground ginger, half a tablespoonful of carbonate of soda. Mix the sugar with the flour and ginger, and work the whole into a smooth dough with the butter beaten to a cream, the honey and soda dissolved in a little hot water. Roll it a quarter of an inch thick, cut it into small cakes, and bake them twenty-five minutes in a moderate oven.

Honey Lemon Cake.—Take one cup of butter, two cups of honey, four eggs well beaten, one teaspoonful of essence of lemon, half a cup of milk, one teaspoouful of soda, flour enough to make it as stiff as can well be stirred. Bake at once in a quick oven.

Strong Vinegar with particularly fine flavour. —Take one part of honey to four parts of water. Expose to heat of the sun in open vessel (protected from insects) for about six weeks.

For Coughs.—Barley-water mixed with honey and juice of lemons. Drink warm.

Cough Mixture.—Honey, sweet oil, lemon juice, and sweet spirits of nitre, in equal parts.

For Coughs, Colds, and Sore Throats.—Honey, either alone or mixed with vinegar or lemon juice.

For Long-standing Cough in Elderly People. —Honey, sweet oil, and whisky, in equal parts. Take a tablespoonful occasionally.

Mead.—Put two pounds of honey to a gallon of water, boil it for half an hour, add the peels of two lemons; work this with yeast. Let it stand in a vessel for six months, and then bottle.

Queries and Replies.

[480.] *Completing Unfinished Combs in Skeps.* —1. Could I trouble you so far as to ask your way of completing combs (both *fixed* and *movable*, in spring before honey-flow, so that there shall not be an excess of drone comb? I have a few stocks in straw skeps which have not completely filled their hives with combs. They have young queens, and I wish to keep them in the straw hives. They have plenty of food. Would gently feeding them secure the point? The movable combs I can get completed by swarms. 2. When will the list of candidates for expert certificates—those who have passed —be published?—J. B., *Lincoln.*

Reply.—We have never been able to accomplish what you speak of with satisfaction to ourselves. With frame hives it is, of course, easy enough, but comb-building in skeps is very difficult to control. Gentle feeding, if begun early, is more likely to succeed than any other plan we know of. 2. The list will first appear in the annual report of the B.B.K.A., and afterwards in our columns.

[481.] Bee-books generally tell me to winter bees on only five, six, or seven combs. I left my bees in most cases all the honey they had made, as they were driven into hives from skeps last summer, and the rest of the brood nest was filled with comb foundation. What evil will result from this treatment? Shall I find the colonies too large and unmanageable? They have now abundance of natural stores in most cases.—C. Clark, *Cambs.*

Reply.—No evil at all will result. If the bees are unusually strong they will take to supers the more readily. If plenty of super room is given there is no danger of their becoming unmanageable.

[482.] *Feeding back Granulated Honey—Brace Combs.*—1. How can I best give granulated honey to my bees? 2. The combs in some of my hives are fastened together by the bees. In what way, and how soon may these be separated? 3. I have wintered some hives on eight, others on seven frames. I fear the latter may be short of food. How soon may I safely begin to feed these, and what is the best food to give? When I last wrote to you I told you I had boiled a quantity of syrup for some hours to make flour cake of it. I may now tell your readers, if you think it of any service to them, what has been my experience. On the next day after placing it on the top of the frames, I found the bulk of it in a liquid form slowly coming out at the hive entrance. Feeling it was too late to remedy my mistake, I left the bees to take their chance. So far, they appear to have taken no harm, as they seem fairly strong, and have been flying during the last few days of mild weather. 4. Will this be likely to induce 'foul brood,' or any other mischief? If so, can I do anything to prevent it? Any information on the subject will be thankfully received. — Inquirer, *Launceston.*

Reply.—1. Only by melting or by mixing it with syrup. 2. Cut away the brace combs and see that the combs hang so as to preserve the proper half-inch distance between each. As soon as warm weather comes it may be done. 3. If food is really short give soft candy at once. 4. It certainly will not induce foul brood. As to 'any other mischief' arising, we should say from your account of what occurred no harm will result.

[483.] *Moving Bees—Uniting.*—1. Shall I do harm to my bees by moving them early in March, by road, a distance of twenty miles? 2. Is it possible for me to unite two stocks (which stand side by side) early in March, or when may I soonest do it? 3. To unite with flour must I sprinkle flour simply, and is it absolutely necessary that I should remove the queen from one hive?—Ambitious, *Salisbury.*

Reply.—1. Not if care is taken in the moving. Early March is a good time for the purpose. 2. Yes; unite directly after the removal. 3. If the hives will hold all the combs on which both lots of bees now are, dust one lot well with flour and space out the frames to allow of the combs from the second hive being alternated with them after being floured like the first. If the queen can be secured as the second lot of frames are

added, it will be all the better Operate in the evening.

[484.] *Height of Hive Stands.*—1. Would you kindly tell me which are the best hives for this district, and what distance from the ground ought they to be fixed? 2. Do you advise nailing floor-boards to hives, or leaving them loose? 3. What firm would you recommend as the cheapest and best for dealing with? I have made up my mind to go in for bee-keeping, and hope, by a little energy, to be successful, as I am always at home, amusing myself at carpentering, turning, gardening, photography, &c. So I have plenty of time to attend to bees properly.—A. J. Woore, *Newton Abbot.*

Reply.—1. Any hive of ten standard frames will do for Devonshire. The distance from the ground is a matter of convenience. About ten inches is the height we prefer. 2. Loose, by all means. 3. We cannot recommend any special dealer. Consult our advertising pages.

Echoes from the Hives.

Annan, N.B., January 27th.—We have had a long spell of frost and snow, but on Sunday last my bees were out in force, and pulling out their dead. I always like to see that.—T. McC.

Nyon, January 31st.—The bees are having a splendid flight to-day. Winter, so far, has been very mild here.—Ed. Bertrand.

Mansfield, Notts, February 6th, 1892.—I began bee-keeping in May, 1890, but the bees died the following winter. I think they were not strong enough to withstand the cold. I got another stock last September. The owner said they had plenty of stores for winter, but I gave them a large cake of candy. I examined them this afternoon—that is, took off the quilts—and found all the honey gone and the candy also. They just seem to have finished the candy. I gave them another cake, and also changed the calico cover, which was slightly damp. The bees seem fairly strong and lively.—Loxley Meggitt.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Honey-comb Designs.—A correspondent who writes regarding these will find the information sought in 'Notes by the Way' (p. 55).

Gisors.—*Feeding Bees in Skeps.*—Cut a hole in crown of skep sufficiently large to receive the neck of a bottle feeder. Fill the latter with syrup, cover the mouth of the bottle with muslin or coarse calico, and, after inverting, insert in the hole. Wrap a newspaper round the bottle—at the junction—to keep it upright and prevent a through-draught.

J. D. (Wexford).—*Position for Honey House.*—It is always best to have the house in which are stored all bee-appliances as near to the hives as convenient, but where it is used also as a honey house it may be advisable not to locate it in the very centre of your twenty hives. One end, or the position marked '3' on sketch sent would be preferable, and it must be made safe against bees from the outside.

J. Clark.—There does not seem to be much the matter with your hive, for the bees sent are hairless bees, and are destitute of portions of their limbs. In their present condition they indicate old age rather than that the bees are suffering from disease, which the ordinary hairless condition of bees usually indicates. Should, however, the carrying out of such bees increase as the spring advances we should consider it an indication of disease.

Yorkshire Bite (Wetherby).—If you obtain the *Bee Journal* over the counter of a stationer in your town it should only cost you 4*s.* 4*d.* per annum, or one penny per number. Post free, the price from this office is 6*s.* 6*d.* per year. Probably the extra 6*d.* is added by the tradesman for the trouble of addressing wrappers to you.

W. Johnson (Badminton).—*Payment by Deposit.*—If the articles are sold through this office on the deposit system there is no risk whatever, because we hold the cash pending the completion of each transaction to the satisfaction of buyer and seller. When we are advised of this the amount in hand is forwarded to the seller.

H. F. W., jun.—*Wax from Old Combs.*—The wax from these may be clarified and made quite fit for all ordinary uses.

W. T. E. (Ealing).—The dead bees cast out are young, imperfect bees, that have not matured properly through lack of warmth about the portion of the comb whereon they were hatching. It shows the colony is breeding, and we advise you to see to it being made as warm as possible.

*** *Sending Foul-broody Combs.*—We are already receiving samples of foul-broody combs for examination and report, and desire to impress upon correspondents sending such the need for using some amount of care in packing the comb for post. Such things as tin boxes, used for various purposes—as mustard-tins, &c.—are to be had for nothing, and make secure packages. But in no case should the combs be sent in paper only. Where convenient, letters should also be sent separately, or not put in along with the samples of diseased comb.

Correspondents will also please observe the slight advance in prices of sugar notified in the list this week. The advance is rendered necessary through the 'rise in prices' on the sugar market

THE

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Editorial, Notices, &c.

OUR HONEY IMPORTS.

We wonder how many readers trouble to peruse the modest little paragraph which appears once each month in our pages under the above heading? And yet how full of interest to bee-keepers should be the information conveyed therein. According to the figures on page 52, it appears that during the month of January last the total value of the honey imported into the United Kingdom reached the enormous sum of over thirteen thousand pounds sterling! This—at the ordinary price of the foreign product—represents something over three hundred and fifty tons of honey, or more than one-third of the total quantity imported during the whole of last year. But the figures are still more remarkable when contrasted with those of the closing month of 1891, the imports for December only reaching the insignificant sum of 421*l.* sterling in value. It may well be asked, 'Whence comes the increase, or why is the difference so enormous?' In no part of the world do we hear of a very productive honey season in 1891, nor of an overstocked market anywhere sending its surplus here to be sold for what it will fetch. We may, therefore, take it that the scarcity of our home-gathered product and the consequent rise in prices at the present time have, in some measure, at least, helped to bring about the abnormally large imports of last month.

If arguments were wanted to prove the need for extending bee-keeping in this country, surely the above facts and figures furnish them, besides supplying bee-keepers with an additional stimulus in determining to lessen the reproach conveyed in our having to pay such enormous sums annually for an imported article, bearing no comparison for quality with that which may be gathered at home by the labour of our own bees. There is no need for concealing the fact that the proverbial fickleness of our British climate and the uncertainty of warmth and sunshine in our all-too-brief summer tend to make the honey seasons with us very precarious, and therefore it is that the British bee-keeper must prepare himself—as we hope he manfully does—for a measure of the disappointments which our climate entails. We, however, none the less emphatically assert that only a small portion of the honey obtainable is ever gathered at all, and we look forward to the time when skilled bee-keepers will be found in every suitably located village, able to take advantage of all the benefits resulting from intelligent management, and thereby increase fourfold the results obtainable under the skep system, to which so many of our cottage bee-keepers have hitherto been wedded.

It is far too common to hear the village bee-keeper—induced, perhaps against his will, to exchange his skeps for frame hives—declare that the latter are a failure. The failure arises chiefly from his supposing that the same sort of management will answer for both systems, coupled with the lack of a thorough appreciation of the requirements of the modern plan. But when the teaching—which, thanks to County Councils, is now in many places within reach of all who care to learn—has borne fruit, intelligent bee-keeping will be as common as is now the want of it. Moreover, there will, we trust, be a considerable diminution of the necessity for importing honey to the value of 13,000*l.* in a single month.

The total value of foreign honey imported into this country for the twelve months ending December last amounted to nearly 40,000*l.*; but, if the figures for the first month of the present year are to be taken as indicating anything like the probable

increase for 1892, they conclusively show how largely increasing is the demand for the produce of the honey-bee, besides warranting us in claiming for the pursuit of bee-keeping a foremost place among the minor industries of the kingdom.

A CASE FOR THE BENEVOLENT.

We have received a communication from Mr. John Walton, of Weston, Leamington, and gladly accede to the request made therein. Many of our readers, along with ourselves, will remember poor Marshall as an unpretending and worthy fellow and a good bee-expert. He sometimes wrote useful articles for our pages, the last of which appears on p. 105 of *B. J.* for February 26th, 1891. We understand that his humble neighbours, by whom he was much respected, are endeavouring to raise among themselves a small sum to meet the immediate wants of the family, and we will be very pleased to take charge of any sum, however small, which may be forwarded to this office for transmission to Marshall's widow, as we believe the case to be a thoroughly deserving one, and that the need for immediate help is urgent. The following is Mr. Walton's letter:—

'DEAR SIRS,—This morning I received a letter from Hemel Hempstead, stating that Mr. Walter Marshall, who was formerly with Mr. C. N. Abbott, and latterly for some years with Messrs. Neighbour & Sons as their bee-expert, had died of influenza and inflammation, leaving a widow and seven children under eleven years of age totally unprovided for. Might I ask if readers of the *B. B. J.* who could afford it would kindly subscribe something towards helping them in this their sore need? If you could insert this letter in the *B. B. J.*, and consent to receive contributions for the widow, would you kindly do so? It is a sad case. Marshall had been ill nearly ever since he left Neighbour's.—Your obedient servant, JOHN WALTON, *February 9th*, 1892.'

Contributions already promised:—*British Bee Journal*, 2*l.*: T. W. Cowan, 2*l.*

BEE ASSOCIATIONS AND COUNTY COUNCIL GRANTS.

We have just received the annual report for the year 1891 of the Lancashire and Cheshire Bee-keepers' Association, and are glad to observe that in it the Committee give special prominence to the subject of grants in aid of technical education, as will be seen in the opening paragraphs of the report, which read as follows:—

'In presenting the Tenth Annual Statement, your Committee have to report that the year now past has been one of unprecedented interest to the Association, and to bee-keepers, not only in the counties of Lancashire and Cheshire, but throughout the kingdom, owing to grants in aid having been made for technical education in bee-keeping by some County Councils. Your Committee made application to both the Lancashire and Cheshire County Councils, and, in response, grants of 100*l.* and 50*l.* respectively have been voted to the Association, to enable them to employ a competent Educational Lecturer and Expert to travel throughout their district. This satisfactory acknowledgment will, it is hoped, materially influence the industry. Your Committee advertised for an Educational Lecturer and Expert, and, having no recognised Educational Committee, they asked the assistance of the Educational Committee of the British Bee-keepers' Association. This was most courteously and readily granted, and the 18th October, 1891, was the date fixed for candidates to appear before them. Four candidates presented themselves, three of whom were considered eligible by the Educational Committee, and from these three your Committee selected Mr. Harbordt.

'The necessary arrangements for lectures to be delivered were made with as little delay as possible, and Mr. Harbordt commenced his work in December, during which month he visited thirteen districts, and his engagements extend, during portions of each week, to end of March.

'Your Committee desire to make it thoroughly understood that your Association does not receive any money from the County Councils towards Expert work at private apiaries, therefore, if this part of the Association's work is to be carried on, it is very desirable that all who take an interest in apiculture should do their best to induce their friends to become subscribers, and not postpone the payment of their own subscription. Their doing so entails a disproportionate charge for postage and stationery in reminders.'

THE DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The eleventh annual meeting of the above Association was held on Friday, January 15th, 1892, at Smith's Restaurant, Victoria Street, Mr. J. L. P. Barber, J.P., C.C., presiding. The minutes of the previous meeting having been read and confirmed, the Secretary (Mr. W. T. Atkin) read the annual report. This was scarcely so satisfactory as had been the case in former years, for a small loss had been entailed upon the working account, whilst, although several new members had been enrolled, the number on their books was less than last year. That was accounted for in a great measure by the bad season they had undergone. It was, however, satisfactory to know that, despite the almost unprecedented season of cold and wet through which they had passed, the collection of honey had not been altogether impracticable. They had to thank their Chairman (Mr. Barber) for the grant of 50*l.* which they had obtained from the County Council in aid of lectures, which were to be given upon bee-keeping in various parts of the county. The balance-sheet

showed that the amount in hand now stood at 38*l.* 5*s.* The Chairman, in moving the adoption of the report, said it was very much to be regretted that the past season had not been a successful one. If they could only have one or two good seasons, a greater amount of interest would be taken in the Association, and they must look forward for brighter times. In regard to the grant from the County Council, he might say that when he asked for it, it was given them without the slightest objection, and with the best of grace. He was sure the Association would appreciate the grant, and he hoped the lectures would prove a stimulus to bee-keeping in the county. The amount of money which was spent in honey was enormous, and if that could only go into the pockets of the cottagers it would be a fine thing, and he saw no reason why a great proportion of it should not. Mr. Wootton seconded the motion, which was carried unanimously. Mr. G. Atkin then proposed, and Mr. J. Smith seconded, a vote of thanks to the officers and Committee of the Association for their services during the past year, which was carried unanimously. The election of officers, &c., for the ensuing year was next proceeded with. The Chairman said they all regretted the death of their President, the late Duke of Devonshire, and he was sure they would all wish to place on record their deep sense of the loss they had sustained. He moved that the present Duke be requested to act as President for the ensuing year. This was agreed to, and the other officers and Committee were reappointed. The Committee was increased from twelve to twenty members, five, instead of three, to form a quorum. The date and place for holding the annual show and honey fair for 1892 were discussed, and it was decided to regulate the matter with the arrangements made by the Derbyshire Agricultural Society, as in former years. The rules of the Association were revised, and other business transacted, after which those present adjourned to tea.

ESSEX BEE-KEEPERS' ASSOCIATION.

The twelfth annual meeting was held in the Vestry Hall, Chelmsford, on Friday evening, February 5th. The Rev. F. M. Sparkes, vicar of Ulting, presided. Mr. F. H. Meggy, hon. secretary, read the annual report and accounts, which stated that a grant of 50*l.* had been made to the Association by the County Technical Education Committee, 30*l.* of which was to be spent in winter lectures, and 20*l.* in tent work, to follow as early as practicable. The lectures were being delivered in twelve centres by Mr. E. Durrant. The financial statement showed that the working expenses for the year, including 29*l.* 4*s.* 6*d.* given in prizes, amounted to 151*l.* 16*s.* 4*d.* The income, including 90*l.* 1*s.* from subscriptions and 31*l.* 18*s.* special donations, amounted to 138*l.* 2*s.* 6*d.*, there being a loss on the year's working of 13*l.* 13*s.* 10*d.* The balance-sheet of the assets and liabilities of the Association showed a balance in favour of the society of 13*l.* It was thought that, considering the work the Association is doing in engaging an expert to visit members twice a year, sending the *Bee-keepers' Record* monthly to cottage members free, holding two large shows, and offering prizes for competition to every horticultural society in the county, the expenditure, though large, was laid out to advantage. It was decided to continue the work of the society on the same lines for the coming year, hoping that additional subscriptions would be raised to make the income meet the expenditure. The report and accounts were adopted. Mr. Walter Debnam, the expert, in his annual report stated that, notwithstanding the short season last year, thirty-nine members took upwards of 100 pounds of honey each, ten upwards of 200 pounds each, and three the large yield of 600 pounds each, or over forty pounds per hive worked for honey. One cottager with ten hives secured upwards of 460 pounds. In his (the Expert's) spring and autumn visits, he examined 2484 hives. There were few apiaries in the county with twenty hives of bees, yet no less than eight tons of honey had been produced last year, even by those members from whom he had been able to obtain returns. Most of the honey was gathered in the short space of three weeks. The report, which was altogether very favourable, was adopted. The officers were re-elected with the exception of Col. W. N. Tufnell, the hon. treasurer, who is succeeded by Mr. W. M. Tufnell. Lady Brooke is the president; Mr. F. H. Meggy, hon. secretary; and Mr. W. Debnam, expert, assistant-secretary, and collector. Mr. Debnam's salary of 50*l.* is to be increased by an honorarium of 5*l.* for the coming year, in consequence of the long distances he has to travel to visit members. Mr. Peter Hills, of Great Baddow, was added to the Committee. Mr. Debnam promised to abstain from showing in classes open to the members only during the coming year in deference to a wish expressed by a number of members. It was decided to invite applications from local Technical Education Committees with a view to the holding of a course of eight lectures on bee-keeping in parishes where it was desired that this branch of the science of agriculture should be taught systematically. It was decided that no member should be allowed to compete for prizes unless his subscription for the current year was paid. Mr. Meggy reported that a separate account would be kept for work done under the County Council grant. This would not go to increase the general funds of the Association, but rather compel them to spend more money to supplement the grant made in order to carry out the work required of them. He had not yet received payment of the grant, but had applied for it. Votes of thanks closed the proceedings.

MARRIAGE OF MR. JOHN D. McNALLY.

Mr. John D. McNally, well known to readers of this *Journal* as a successful bee-keeper, honey producer, and exhibitor, was married on the 30th December last to Kate, second daughter of Mr. James Masterton, Sackville House, Springburn, Glasgow. Mr. McNally, who has, we believe, permanently settled down in business for himself at Lawrencetown, co. Down, is as full of enthusiasm as ever in upholding the merits of Ireland as a bee-country. His many friends among our readers will, we doubt not, join us in wishing for himself and Mrs. McNally many years of happiness, health, and prosperity.

LIFE AND LABOURS OF THE BEE.

In the fine days of summer, in that time of cheerfulness and joy, everything is in motion: everything thoughout the animal world is full of life and activity; but there are no creatures so active as the little republic of bees. At least, of all the insects around us, there are none we can better learn to be acquainted with, or which can afford a more pleasing scene. The bees assemble in great numbers, either in hollow trees and cavities, or in sort of baskets, called hives, where they are collected by the art of man. They disperse on all sides, and, by means of their trunk, they gather honey and wax from the stamens and juice of the flowers. When their harvest is made, they convey it into their storehouse, which they fill from top to bottom with cells, in form of hexagons. They inhabit some of these cells; others are designed to receive the eggs and to lodge their young: and the rest serve as magazines to deposit their winter's provision of honey in. Amongst these bees, which form altogether but one family, there is one larger than any other, which is a female, and therefore called a queen. To her alone all the young bees born in the hive owe their birth. From the eggs she laid in the cells there come out worms, which the working bees feed with their trunks. Afterwards this worm remains nearly fifteen days to all appearance dead in its cell, which is closed with a little wax lid. In this inanimate state it is called nympha. When its time is accomplished it opens its tomb, and comes out in the form of a young bee. The bees have two horns on their heads, which guard their eyes, and warn them of dangers. They have fangs or claws they make use of in their work, and a trunk, or hollow tube, which they can draw in and out of its case as they please. This instrument, supple and movable in every way, reaches to the very bottom of the cup of the flowers, where they gather their honey, and passes through the case into the bag of honey placed within their bodies, from whence the honey is afterwards poured into the cells of the storehouses. The bees have six feet: with the two first, and their fangs, they form the wax or meal of the flowers into little balls, and with their middle feet they put them into a hollow, shaped like a spoon, which they have in their hind feet, which are also furnished with hair, in order to retain the wax, and prevent it from falling when they are flying. Laden thus they return to their cell, without losing their way, though they are sometimes several miles from it. When they arrive, they find other bees waiting for them, to assist them in unloading their booty, and then all work in common to employ those provisions for the general use of the hive. They stop every crevice with wax, to keep out any foreign animal, and leave openings for themselves to go in and out. The queen and the working bees have, at the extremity of the body, a sting enclosed in a case, which they make use of to wound or kill their enemies: but the wound they give is generally fatal to themselves, when the sting is drawn from their body.

Everything in those little animals must excite our admiration: the formation of their limbs, so regular and so well adapted to their kind of life: the care they take of their young; the art with which their cells are built, their activity, their industry and intelligence. Let us never pass by a beehive with indifference. Let us admire them, and this admiration may lead to more sublime thoughts. If we love to reflect on our Creator, we shall find Him here. This interesting scene will lead us to Him, and we shall adore His wisdom, His power, His goodness, in the production of these little creatures.—*Extract from 'Beauties of Sturm's Reflections,' by Eliza Andrews*, 1812.

ORDER IN THE APIARY.

I wonder if it troubles other bee-keepers as much as it does us to keep things picked up and put in place? Our out-apiaries are generally in good shape, for we think we *must* straighten things up there before we leave. It is the home apiary that suffers. It is *so* easy to think we must rest a little before putting things straight, and we are too tired to do another bit of work that night, and, as it's at home, we can easily fix things up in the morning! In the morning something else is very apt to interfere with the clearing up, and it goes until a more convenient time, and sometimes things get pretty well stirred up before that convenient time comes.

I don't mean to say that we never pick things up the same day, but that sometimes they are left, and I believe we are almost always sorry for it. I *know* I am. It doesn't take such a great amount of time or strength either to do it at once, and the amount of comfort it gives to know that everything is in good shape more than pays. Aside from the comfort, there is a great deal wasted by leaving things lying around, and a great deal of time wasted in looking for them.

It is a great deal better to drive our work than to let it drive us. If we once get behind it is extremely hard to catch up. I know there are times when a certain amount of work must be done in a day, and by the time that is done

we are so utterly worn out that it would scarcely be wise to attempt anything else. In that case the straightening up would better be postponed—but that doesn't often happen.

Perhaps some bee-keepers don't do any stirring up in their apiaries, consequently don't need to do any straightening up at night. But ours often looks as though a cyclone had struck it, only perhaps the cyclone would have swept things cleaner. I have often looked around our apiary at night, after a busy day, with genuine dismay, and wondered if it ever would be reduced to anything like order. But it always came out all right in a short time, if we only went to work at it right away.

It's a good deal the same with our shop. We have our 'clarin' up' times, as Dinah had, and everything is put in apple-pie order. Then we firmly resolve that everything shall be kept so. For a time all goes on swimmingly. Then some one gets in a hurry, drops a tool where it doesn't belong, or perhaps a lot of stuff comes in boxes that must be opened, making a big muss, which, in the hurry of the moment, is left, and so it goes, one thing after another, until any one might easily imagine that things never were in order and never would be.

A bee-keeper always has many odds and ends as well as regular tools and fixtures to store away until needed. They are sure to be needed some time, but the problem is to keep them all in plain sight, so that they can be readily found when wanted without having to spend more time looking for them than they are worth. We sometimes nail boxes against the wall, forming little cupboards, in which the odds and ends are placed, or anything we wish to store, such as T-tins, wire stoppers for hives, &c. Then, by glancing round the room, we can usually find what we want without much trouble.—E. Wilson *in 'Gleanings.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THIN-WALLED HIVES AND HANDLING HIVES INSTEAD OF FRAMES.

[931.] 'Masterly non-interference' (see 927, p. 56). The finishing lines of Mr. Donbavand's article state it very plainly, and I add, 'There is the rub.' He says, 'Careful bee-men do not disturb hives more than expediency requires' and, therefore, in spring, the 'handling of hives instead of frames.' In warm summer weather the mischief of separating the combs of a frame hive is easier got over by a strong colony, but, during the winter and springtime of the now rapidly approaching breeding season, when all warmth self-produced by the bees is an absolute necessity for the young brood and the nursery—the brood nest—it is wrong and ridiculous cruelty to force the warmth of the hive to escape upwards, where all heat ascends, by disturbing the so carefully sealed-down crown boards, quilts, felts, and all top coverings of the winter packing of the still almost dormant cluster of warm bees—not only giving them a shiver, but chilling the just-started young brood: and even the queen in her nervous and frightened state, at have the roof of her house pulled away from overhead, if only partly excited, causes a commotion in the whole cluster in their quiet state—the whole community breaks up more or less. If a hive is turned up, thus 'handling hives instead of frames,' the natural heat is kept together. A short 'upside down' does not diminish it much, as no manipulation should take place. 'A glimpse' suffices. Returned back in a few moments, the cluster scarcely perceives what has taken place. I say a glimpse. If anything is wrong, a careful bee-keeper will know it at once, without first tickling his own curiosity, unless expediency requires it, and forces the necessity of separating the combs.

The weight of a hive at this season is scarcely over ten pounds, skep or single-walled wooden hive included. I do not answer the question, Can a hive as used in England or America upon a single stand be thus manipulated? as all my hives are straw or single-walled wooden hives. They are in bee-houses, protected by the dead air (so called) around the hives, and the warmth of the houses; but, nevertheless, I am wintering most of my fifty hives in my dark cellar since November 20th, although my three bee-houses, each one for eighteen hives, have hot-water pipes in them. After three months' imprisonment (end of February) they are returned into the bee-houses, not only for protection, but for the aid of the four rows of hot-water pipes to warm the so-called dead air of the house around each hive. In this principle I adhere to the thin-walled hive theory, but I do not interfere with any of them until something shows itself wrong, even to a loss, or if a queen should depart unperceived and unexpected, which would still be, in my opinion, a smaller drawback than to open the hive on the top in the breeding season. For all the thin-walled hives I want, in the first instance, sufficient provision, proper warmth of protection, and, if required, feeding from below, not on the top of frames: but no interference, no pulling to pieces of combs, nor even the winter packing. Still, I do not object to *turn a hive up* for a 'glimpse' examination if absolutely necessary, nor do I fear the delicate state of the brood nest, or the

self-created warmth of it, and the cluster of the colony becoming very much reduced, I want my own non-heat escaping power of the stratum warmth without the hive to be *warm air*, which penetrates everything. The temperature in my cellar is never below forty-five or fifty degrees during the most frosty days, and in March the temperature in the bee-houses is kept up by fire heat to seventy degrees when breeding is progressing and assisted feeding carried on.

Your correspondent (924, on p. 55) says: 'All animals—and men—are better for their thick, cosy, wintering houses.' My bees also! I try to preserve the equable temperature in and out, particularly in the brood nest, rendering it less susceptible to the many changes of a changeable climate. I admire all Mr. Grimshaw says of thin-walled hives, but go a step further by giving these easily manipulated thin hives a very warm protection all round them, not only by warm winter packing on the top of the frames, but by securing for them a still, warm-air surrounding all the winter throughout, not exposing them to severe weather, blasts and storms, snow and rain, but by keeping them quiet, undisturbed, and dark in a cellar or bee-houses (which are also dark), giving a dry surrounding atmosphere, assisting their own life's heat, which is produced, as the temperature gets colder, by disgorging unnecessary food, unnaturally consumed, to exclude the cold from without.

I can turn all my hives up. Some have pivots as swivels for the purpose on the side; others, on the English principle, have frames, crown board, and all winter packing securely fastened down. This time of year they are light and easily handled. The German 'Kaiserstock' and Gravenhorst straw skep, 'Bogenstülper,' have both their frames securely fastened on both ends of frames, and hives do not move, nor do combs in skeps. It requires a little common sense and care with thin-walled hives on the 'W. B. C.' principle, intended for the protection of a double hive, which latter is represented in a far better style by my bee-houses.

In November and December the bees in the cellar gave me a happy humming. In January and February there reigns a supreme silence, almost a dreaded stillness, until the light or a gentle tap of the finger upon the hive starts the welcome sound. 'All right! Don't disturb us!' 'Friends and neighbours, do not weep; we are not dead, but—fast asleep!' (from *The Young Married Couple*).—J. G. K., *Grove House, Southborough, Tunbridge Wells.*

WAX-EXTRACTING—A HOME-MADE EXTRACTOR.

[932.] I noticed in the *B.J.* lately (920, p. 46) a description of a cheap wax-extractor, which will, I believe, answer very well, providing you have a suitable boiler. I have found wax-extracting generally a messy job, sometimes attended with danger, as I nearly set the house on fire once by leaving some in the oven, which got very hot, boiled over, and took fire. But the extractor I am about to describe, providing you keep plenty of water in it, will be found handy, safe, clean, and cheap. In fact, any one can make it for nothing, as I did the one I use myself.

Go to your provision dealer, and ask him for two empty 'corned-beef tins,' fourteen-pound size. As they are no use to him, he will probably thank you for taking them away. Make a hole in each side of one of them, and put in a piece of stout wire for a handle to hang or carry it by. Then take the other tin and cut it round about half-way down, put a nick in each corner, and double about a quarter of an inch down all round outside. Prick the bottom full of small holes with a small pricker from the inside. Put the smaller tin inside the large one—the turned-down piece will hinder it going too far down. Fill up to near the bottom of inside tin with water, fill the inner tin with comb, put a piece of cloth over the top to partly confine the steam, then put it on the fire, and let it boil until all the wax goes through, leaving the dirt. Then put it on one side until cold, when you will find a nice cake of wax on the top of the water.—JAMES FINLAY, *Whitehaven.*

[The above just shows what a good substitute for the ordinary manufactured article may be contrived at no cost beyond the little trouble in making. We suggest perforating the inner tin, or comb-basket, on all sides in lieu of bottom only, and, if this is done, there is no reason why the simple contrivance described should not answer all the requirements of those who only keep a few hives.—EDS.]

HONEY AT SHOWS.

[933.] I began last year with twelve stocks in frame hives and four in straw skeps, and they were in good condition at the right time (end of May) in this district, and all was over by June 22nd, when the weather broke. I may safely say that no honey was stored after that date—certainly not in supers. Up to that time I had had nine swarms, and had put on 1200 sections, besides several boxes of different shapes and sizes. All were taken off by end of July, the result being 700 complete sections, and 278 pounds of honey strained from box supers and incomplete and badly formed sections. I did not take an ounce from body of hives, simply from want of time.

I was very fortunate in not being bothered with second swarms; I did not have one. The weather has been very favourable in this locality for wintering, and a few fine days during the last fortnight have brought out the bees for a cleansing flight, and enabled me to examine all the hives, and am pleased to say I have found all in good condition.

I hope it will not be considered out of place here to say a few words on honey-judging in general, but at the Dairy Show, Islington, 1891, in particular. First, I think it almost impossible

to keep honey in a liquid state till October, unless by exposing it to a high temperature—in fact, to boiling point—thereby detracting from the flavour; therefore honey in its natural state, viz., granulated, ought to stand before liquid. Secondly, there being between fifty and sixty entries in some of the classes, I think it almost impossible to judge that number in the time taken for the purpose. I would therefore suggest six jars instead or twelve, and separate classes for granulated honey, letting that stand before liquid honey, so as to discourage the practice of subjecting it to heat in order to keep it liquid; and then the public might be brought to believe that granulated is better than liquid, and that there is less likelihood of purchasing adulterated honey, and the sale of pure home-produced would then take the place of foreign adulterated honey.

With best wishes for success of the *B. B. J.*, from which I have learnt much.—MATTHEW WHITTLE, *Berks, February 11th*, 1892.

B.B.K.A. DIAGRAMS.

[934.] 'Approved and recommended by the Science and Art Department.'

Really, now—did they? and what has science come to in this nineteenth century? ditto art, and ditto both combined? Surely, surely that view of our favourite insect, with its posterior pair of limbs inserted in the abdomen, and the other one where the stamens of the apple-bloom are seen springing direct from the calyx, are due to some creative energy more potent than Darwinian selection!

The writer is versed in neither botany nor entomology, but a single glance at those specimen illustrations is calculated to set one's eyes at variance for some hours after.—J. W. TOULE, *Thurleston Mills.*

LEAKY ROOFS.

[935.] Your correspondent, Mr. J. S. Dismore (917, p. 44) recommends a sheet of zinc *nailed* on the roof of hives as one of the best methods of keeping the wet out. I beg to differ from him ~~if the hives~~ stand in exposed situations, as the sun will buckle the zinc (if nailed), and the wind will enlarge the nail-holes. I consider the best way is to make the ordinary span roof of wood, tongued and grooved to keep out wasps, &c. It need not be planed, and a few cracks are of no consequence. Now take a sheet of zinc, one and a half inches larger *all round* than the top of cover, turn down one and a half inches to right angles at front and back (the zinc will now be perfectly rigid); in the exact centre of front and back, cut through the one and a half inches (or turned down part), and the zinc will bend to fit roof. Put it in its place, and cut upwards to corner of eave, both above and below the boards; bend the narrow strip around the corner, turn down the zinc tight to the eave, and bend upwards underneath, then the ends (front and back) over it. Solder the corners, and centre where it overlaps at front and back. If done properly it will be as tight as if nailed, and will expand without buckling. I have some wood roofs made this way twenty years ago that have never let any wet in yet.

I forward by this post a little contrivance of my own for allowing winter passage over tops of frames. It is very simple, and the enamel cloth fits close to it, so that there is no space for moths. It is simply a slip of wood hollowed out on its under side, and laid across the top bars, allowing the bees passage-way under it from comb to comb.—ALPHA, *Stamford.*

CANDY FEEDING.

[936.] In feeding with soft candy I have found it saves me considerable trouble, and also avoids unnecessary disturbance of the bees by cutting out a piece of the cardboard box containing the candy, and laying over the box a small square of glass. By lifting up the quilts I see at once if the stock of candy is getting short. This hint might be useful to others.—E. H. P., *Tottenham.*

Queries and Replies.

[485.] *Water in Combs.*—Will you kindly advise me what to do under the following circumstances? During a flood my hives got more or less filled with water. The bees are all alive, but, on taking out some of the back combs, I found them full of water, except, of course, where food was sealed. I am under the impression there must be water in all the combs. —A FIVE YEARS' SUBSCRIBER, *Shepperton, February 10th.*

REPLY.—We should at once put all the combs not occupied by bees through the extractor to remove any water there may be in them. The wonder is how the bees have managed to exist under the circumstances.

[486.] *Colour of Granulated Honey.*—A short time ago I sold a small parcel of honey in one-pound capped bottles to a general dealer in this town. When bottled, the honey was clear, light-coloured, and excellent in quality. As it granulated, the brightness of its colour was not maintained, and patches of white came out on the surface of the honey, and the same colour showed itself through the glass in different parts of the sides of the bottles. The tradesman was talking to me about it a day or two ago, and he says that his customers do not like the appearance of it, and say that it is adulterated with flour. I can assert most positively that the honey is perfectly pure, and has not at any time been out of my care until I passed it on to him. I write to you to ask whether these

appearances in honey that is candied are usual, and that you may let me have your opinion in your *Bee Journal*, as I have no doubt that the like difficulties have been encountered by others, and a discussion of the question would prove interesting.—AMATEUR, *February 15th*, 1892.

REPLY.—Though it is difficult to assign a cause for the 'patchy' colour observable sometimes in granulated honey, there is nothing unusual in it, nor does it in the slightest degree indicate impurity. If the jars in question are slightly heated in warm water until the honey becomes again bright and liquid, it will remain so for a long time, and when it again solidifies the patchiness in colour will have disappeared.

Echoes from the Hives.

Tuam, co. Galway, Ireland, February 2nd, 1892.—Though I am the most successful bee-keeper about here, yet I am much disappointed at three bad seasons running. I have now twenty stocks in bar-frame hives all alive, not having lost one stock during the winter up to now; all twenty were on the wing on Saturday and seemingly very strong. I have little fear of their running short of stores, as on two periods last season they were full of honey. I had 1094 sections on together, but two bad intervals occurring they took down the honey out of the sections, leaving me over 700 empty drawn-out sections and nearly 400 with more or less honey in them. I sold 308 for 8*l.* 17*s.* and have the empty sections carefully stored for the coming season of 1892. I have been looking out for an expression of opinion as to the productiveness or otherwise of the season of 1891 in the *Bee Journal*, but failed to see it expressed there. I believe the season of 1891 to be much behind that of 1890. We in Ireland want badly a known *satisfactory* medium of sale for honey when produced. I have tried more than one, and only found one firm in Dublin, Messrs. Calston Brothers, satisfactory, and I intend to ask you to be the medium of my strong recommendation to Irish bee-keepers to try Messrs. Calston as a medium for the sale of their honey—as a firm that will, as they did for me, sell over 200 sections in one day and pay for it the next, will bear favourable contrast to another that took over four months to sell and settle for over 300: this cannot compare very favourably to them.—T. K.

CAN BEES REASON?

On page 888 of *Gleanings* we read a very interesting article by C. C. Miller. It is his quotation from Mr. M. L. Holbrook, M.D., that particularly struck me as something peculiarly interesting by reason of the fact that a doctor would advocate the idea that bees reason. Why! he must be a very devoted follower, even to the furthest limits, of the Darwinian theory, even to insects. Perhaps if we should give the doctor a little encouragement he might even go further, and try to make us ignorant people believe that clams use reason. What are you laughing at? When they are hungry, don't they know it, and absorb more nourishment? and when you put them in prepared salt water, don't they open their shells and live in peace? Who dares say *this* is not reason?

Mr. Darwin, if I am right, found only very slight traces of reason in the ape and dog; but he never went any lower in the scale of animal life. But here we have a gentleman whose balance-wheel has got a start, and it has carried him out of sight. Such things sound novel; and the human mind naturally grasps at novelties until they wear it so hard it won't hold water any longer.

Perhaps our friend Mr. Holbrook would want us to believe that bees use reason when they build their combs. We shall see how his theory is now. Man, of all creation, is endowed with reason in its purest sense, and I am inclined to think that man is the only creature who possesses that article; and man himself can not make and cap a honey-comb—no, not with all the light of the experience of ages, and all their reasoning power to-day. In fact, I have read of an offer of one thousand dollars to prove the fact that any one makes comb honey.

On first thought one is led to believe that bees do reason when we have seen them do something out of the ordinary, as they often do. One might say with propriety, following Mr. Holbrook's idea, that plants have reason. You put a board on the sprouting root of a plant, then see it make a turn and reach the light. Now, that plant reasons thus: 'This plank is right on my head, and it looks as though my jig were up; but I'll try to follow this plank across the grain, and I'll reach the light sooner than if I follow lengthwise of the grain on the plank.' How's that for reason? But do they have reason? I guess the answer most of us would give would be a laugh. The Creator endows the bees with—well, we call it instinct; but we can never call it reason.—GEO. SHIBER, *in 'Gleanings.'*

AFTER-SWARMS AND INCREASE.

In March *Guide* friend Demaree asks, 'What do you do with your increase?' &c. Perhaps I can add a little mite to his store, as this is one of the subjects that never bothers me any more, and I don't call myself a crank either. Living so long as I did on a town lot, I had to keep my stocks down to a certain number, and, after years of hard work, have got it down within my own reach, at least. Some of this I have said before, but it will bear repeating, as there are always some one wanting to know. In the first place, I got out of that notion of minute inspection of every stock, every frame, and square inch of comb. I learned to know the condition of a

stock by outside, or top of frames, inspection. This saves an immense amount of hard work, which can be put in at something else. Next I use a large hive: my bees don't get restless and get the swarming fever as early as small hive stocks do. I put on early my surplus arrangements, and keep ahead of the bees always. I work for both comb and extracted, but in either case it is big hives, big strong stocks, big storage room, and very little fooling with the brood chamber. As a result for several years of this kind of work, not over twenty-five per cent. of my stocks have cast swarms. Of course, this amount has to be cared for, and it is quite a task to take off a large amount of storage cases to get at queen-cells when a swarm comes out, but not one-fourth as much as to do it for the whole apiary. I very seldom have to cut out cells more than once. With an abundance of hives of empty comb and storage cases, a new swarm soon becomes as good as an old one. Now, you see my increase is small; next for the increase. By not watching the inside conditions of each and every hive for each week of the season, with other work crowding me, some of the stocks are bound to come up queenless in the fall, serve to keep down undue increase. This may seem unorthodox when we think of the teachings we get for minute work and fine-haired manipulations: but where it succeeds, what care I? These hives of empty combs that are left are the most valuable part of a stock of bees, and come in play another season. Now, by the above system, I easily get along without being bothered by the increase problem; and which, think you, is the better plan, to slave all through the swarming season in opening and examining, cutting out and killing: or getting at a better result by a better way? At last I am satisfied with success.—WILL. M. KELLOGG, *in 'Bee-keepers' Guide.'*

INTRODUCING QUEENS.

After experimenting as an amateur bee-keeper for a number of years, and engaging in the business of queen-rearing for a longer term of years, I have concluded that there is no plan that is absolutely certain when applied to introducing queens. The temperament of queen-bees varies as much as that of other animals. Some queens are gentle and steady, and they may be introduced to any queenless colony in most any way chosen to perform the manipulation, while other queens are wild, fidgety, and nervous, if bees have a nervous system, and it is a very difficult thing to get any colony to accept such queens. Perhaps this statement will strike many persons as being on the 'hair-splitting' order, but I am quite sure that many experienced bee-men will agree with me along this line. I once trained a large, fine queen till she was so steady and confident that no bees would attack her as she walked unconcernedly among them. On one occasion I introduced her to a colony that had a laying queen of their own, and I had the satisfaction of seeing both queens moving leisurely on the combs, treated as nearly alike by the workers as could well be. Of course, this was an experiment pure and simple, but it taught me that the queen has much to do with the success or failure, when introducing. I am aware that laying queens have been and may be introduced in *many* ways, and with surprising success; but I know of but one rational and methodical plan, and that is to cage the queen on top of the frames where I can see the behaviour of the worker-bees toward her, by raising a corner of the quilt that covers the tops of the frames. As long as the bees gather in knots about the cage and engage in biting at the wire cloth, I leave them to vent their spleen till they get into a better humour. As soon as they become reconciled to the caged queen, they will be found crawling about the cage as leisurely as anywhere else on the combs. At this stage of their mood, I remove the stopper to the feed department of the cage, and leave the bees to liberate the queen by eating out the soft candy. I now leave them to themselves till the queen has had time to begin to lay eggs, after which she is as safe as if she had been reared in the hive. I insist that this is the only *business* way to perform the manipulation, and the only way that is practically sure, because it depends on the judgment of the apiarist, and not on the whims of the senseless bees. I do not deem it necessary or advisable to describe the many plans that may be adopted, with more or less success, in the introduction of laying queens, because it is much safer plan, and adhere to that as long as it does not disappoint.

Introducing Virgin Queens is a different matter altogether. It is well understood by all experienced apiarists that virgin queens when first born may be introduced to most any queenless colony by simply permitting them to 'toddle' into the hive. A new-born baby queen has an artless, confident way of staggering in among the bees that ensures its safety against violence; but once let her become a few hours to a week old, and take on that 'pert' fidgety temperament characteristic of the virgin queen, and it is well-nigh impossible to get any full colony to accept her, and a very risky matter to instal her in an ordinary nursing nucleus. I have often introduced a dozen of them to nuclei by the caging process as described above, with little or no loss, and perhaps the next trial, with the same number and under apparently the same circumstances, would prove nearly an entire failure. I have met with the best success when introducing *old* virgins, by removing the nuclei to new stands, and, immediately after the field-workers have returned to the old stand, leaving the nuclei with mostly young bees, proceed to introduce the aged virgins. This experiment explains why Mr. Alley and some others have reported better success when introducing this class of virgins. They use *wee bits* of nursing nuclei, so small that the bees with which they are stocked are indifferent as to what goes on in their toy home. There was a time when

I thought I could introduce aged virgins to most any queenless bees by following closely my caging process, the same as when introducing laying queens. And the fact is, I can introduce them with very nearly uniform success; but, strange and unaccountable to tell, so many of them disappear before and at the mating period, that the loss is too heavy to count it a success. That worker-bees should exhibit *spite* and jealous contempt toward virgin queens of several days old is a curious fact, but a true one. They are ready to persecute them on any occasion, and often to the death; and often young queens suffer persecution, though reared in the hive from the cells. Many persons believe that young queens are lost by entering the wrong hive on their return from their bridal trip, or are caught by birds, &c.

According to my observations, very few queens are lost in this way. The great loss comes from persecution at home. I have spent hours, days and weeks, looking up this matter, and I have been astonished to discover how many young queens are persecuted and 'balled' by the crankish workers at the time they are engaged in their wedding flights. The average writer and author speak of the 'queen's mating' as though she took but a single flight into the air to mate. Such is not the fact. The queen, under ordinary circumstances, never makes less than three trips into the air, and frequently a half-dozen trips before she mates. I remember seeing one queen take fifteen trips into the air before she was mated.

I can introduce virgin queens of any age by confining them in a nursery on *all sealed brood* that is hatching rapidly, and keeping them in the nursery till enough young bees are hatched to form a small nucleus, when the combs with bees and queen are placed in hives in the yard, when the queens are soon mated. But this plan is too expensive for practical purposes, but it is a good thing when one wishes to save valuable young queens without taking any risk. Very valuable laying queens may be introduced by this plan without any risk. My nursery is simply a hive body with a wire-cloth bottom, and divided into three departments. It is kept warm by setting it over any strong colony.

It appears that quite a number of virgin queens were sent through the mails the past season to be mated in the yards of the purchasers. It would be interesting to know what proportion of them became laying queens. I have only heard from half-a-dozen of them, and only one of the number lived to lay eggs. Mr. D. A. Jones claims that there is much virtue in introducing virgins 'after night.' Mr. Alley uses tobacco smoke, and Mr. Pratt recommends little spiritless nuclei. According to my observations, the latter will succeed best. If you want to introduce aged virgins, the smaller your nuclei, the better your success will be. But, in my opinion, until we learn more about introducing virgin queens, the safest way is to use queen-cells.—G. W. Demaree, *in 'Bee-keepers' Guide.'*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, of replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

**** Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

J. Williamson (Cumberland).—*Opening Hives.*—What you call 'inquiring within' is a very reprehensible practice at this early season. If the bees require food it should be given in such quantities as will last three or four weeks. In fact, disturbance of brood chambers in February should be as seldom indulged in as is possible, consistent with the wants of the colony.

J. Carter.—*Suspected Foul Brood.*—The fact of 'one or two sealed cells' appearing in a portion of the comb when no breeding is going on is no indication whatever that the stock is foul-broody. You must just keep a careful eye on the hatching brood whenever the combs are being inspected, and so long as the capping remains plump and healthy-looking, do not 'remove the sealing to see what is inside,' as you put it, but just leave it untouched. May is the critical month when most watchfulness is required.

C. H. R.—*Duty on Honey.*—Without consulting 'authorities,' we may safely say that no duty is imposed on imported honey.

Stella (Glamorgan).—Samples of honey sent are pure. We like that marked 'W' best.

T. Nixon (Northwich).—Queen sent has not been mated, and therefore could have been of no use whatever.

Comstock.—*Cheap Home-made Feeder.*—Your letter is scarcely of sufficient interest to warrant our incurring the expense of having so many blocks engraved as would be needed to make it intelligible to cottage bee-keepers. We should have written you privately to say this much, but you omitted to send name or address.

*** *Notices of the Scottish and also of the Melrose Bee Associations reached us too late for this issue, but will appear next week. Communications from Edwin Ball and others are receiving attention, and will also appear in our next.*

*** Creating a Honey Market.—*Referring to the circular on 'Honey and its Uses,' which it was intended to issue from this office, as announced in our last issue, we have decided to leave the publication and distribution in the hands of the author, the Rev. Gerard W. Bancks, Durham House, Green Street Green, Dartford. Any communication on the subject must therefore be addressed to him as above.*

THE

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—It is quite an awkward task to write of the weather a couple of days in advance of the time when one's words are read, seeing that less time than forty-eight hours in our present season may witness a change from hard frost to almost summer warmth. In this way, since our last 'Hints' appeared, there has been quite a series of weather variations, and it behoves us to just think 'where we are' before committing ourselves to print. We have, however, had a first experience of real (white) winter in the present month, snow in some parts being reported as over a foot deep, and a temperature lower than has been recorded, so the papers say, for any day in February during the last thirty years. Here, in the south, we had snow lying several inches—not feet—deep for a day or two. It commenced with a storm of snow and icy sleet, in facing which, on the night of the 15th, we were led to reflect that any one desirous of realising what is meant by a 'blizzard' should try a night walk along the lanes of Kent in face of such 'a blowin' and a snowin'' as we had in front of us on that occasion. We could only register the degrees of frost by aching fingers and ear-tips, but we instinctively thought of the poor bees in hives with full-width entrances open to such a blast, and were thankful that our own had very narrow doorways indeed, as well as having their backs to the fierce, cutting wind, and it may be a 'useful hint' to bear our thoughts in mind. As we write (on the 23rd), the frost and snow have disappeared, and given place to pleasant warmth, with bees enjoying themselves in the sun. Farmers tell us the weather is 'very seasonable,' and predict a good summer for agriculture—which to bee-keepers reads *Api*-culture. We shall see.

EARLY SPRING WORK.—Now that the season for active work in the apiary is close upon us, we shall be expected to devote space in this column to dealing with the special needs of the bees in so far as preparing them for the coming campaign, and the main points requiring attention may be summarised under a very few heads. First in importance comes feeding, where needed; second, making sure of the safety of queens; third, seeing that brood chambers are warm and snug, and adding to wrappings where necessary. Then follows deciding how to deal with stocks found queenless, or with others too weak to stand alone, by 'uniting,' or by equalising. Next in order comes repairing any winter mishaps which may have occurred—such as clearing away the effects of heavy mortality, by removing dead bees in bulk from floor-boards, or by removing frames of comb in which whole seams of bees have perished. Some will elect to contract their hives to as many frames as the bees cover; others will act otherwise, and do no contracting at all. Practically, this reducing the size of hives in spring is a matter of opinion, and no great good or harm will occur either way; if the bees are fairly strong in numbers, they can keep the brood warm as it continues to increase, even though they be on the full number of combs. It is necessary, however, to remove any combs which have become mouldy or foul, and this removal offers a good chance to have new combs built in their stead, when weather is warm enough to safely part the cluster, by slipping a full sheet of foundation between.

The first three of the items enumerated need involve no great amount of trouble, and very little manipulation, which at this early season is to be avoided as much as possible, and we also urge that no 'cooling' of the brood nest should be brought about by spring feeding. With care, either candy or warm syrup may be given, with very little disturbance of the coverings to frames,

but a careless hand may do more harm than good in giving candy food, especially if this point is overlooked.

In some districts a supply of water, placed handy to where the hives stand, and arranged so that the bees may get at it without risk of drowning, is very necessary to brood-rearing. If the bees are shy of the 'trough,' some coaxing may be needed for a day or two till they become used to the spot. A little sugar thrown in the trough will often tempt them, and once the bees have been induced to frequent a given spot for water, the supply should be regularly kept up, and if a sheltered corner be selected for the trough the lives of thousands of bees may be saved which would perish if water had to be brought from a distance. There is, however, so much to say under the head of 'spring work' that we will resume the subject in 'Useful Hints' next week.

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

The Annual General Meeting of the Middlesex Bee-keepers' Association was held in the Board-room of the Royal Society for Prevention of Cruelty to Animals, 105 Jermyn Street, on Thursday, February 11th, at 5.30 p.m.—the Baroness Burdett-Coutts in the chair.

Among those present were Mr. H. Jonas (hon. treasurer), Hon. and Rev. H. Bligh (hon. secretary), Messrs. J. Gittins, G. A. Barker, J. Mason, G. W. Smyth, H. Dell, T. Leadbitter, D. H. Durrant, H. J. Savory, Major-General Battersby, Dr. Rayner, Major Fair, &c.

In presenting the report and balance-sheet the Secretary pointed out that the expenditure of the past year had exceeded the income by about 13*l.*, showing a balance against the Association of 2*l.* 6*s.* 11½*d.* Hence it was incumbent on the Committee to husband the funds entrusted to them during the present year, and, though it was not advisable to dispense with either the spring or autumn tours of the Expert, yet it might be expedient to economise by deferring the County Honey Show to 1893. Being duly proposed and seconded, the report was then adopted, and the balance-sheet passed unanimously.

Mr. Bligh proposed the re-election of the Baroness Burdett-Coutts as President, and that the best thanks of the meeting be accorded to her for her kind services during the past year, referring at the same time in appropriate terms to their indebtedness to the Baroness for the sympathetic interest she always manifested in the success of the Association. The proposal, being seconded by Mr. Smyth, was carried by acclamation. The Baroness, graciously responding, expressed her readiness to do all in her power to promote the prosperity of the Association.

The Vice-Presidents, Treasurer, and General Secretary were re-elected; also the Auditor, Mr. T. Way, to whom a vote of thanks was passed for his gratuitous services during the past year.

The Provincial Secretaries for the north-west and south divisions of the county were duly re-elected, while Mr. D. W. Smyth was elected Secretary for the north-east province, in place of Mr. Pye English, retired — the thanks of the Association being unanimously accorded to the latter gentleman for his valued services during past years.

Dr. Rayner and Major Fair were re-elected County representatives to the B.B.K.A., Dr. Rayner to be *ex-officio* member of the Committee of that body.

The Association loses the services of Mr. S. J. Baldwin, as Expert. For some time past he has found the fatigue and exposure incidental to a county expert's duties too onerous, and, to the regret of his numerous friends, has placed his resignation in the hands of the Secretary. The thanks of the Association were warmly accorded him for his past able and conscientious service, while his son (Mr. R. Baldwin) was duly appointed to the post vacated by his father.

It was proposed by Mr. Jonas, seconded by Dr. Rayner, and carried by acclamation, that the best thanks of the meeting be accorded to the Baroness Burdett-Coutts for her kindness in presiding at the meeting.

The proceedings terminated with the drawing for prizes, results of which were duly declared.

LANCASHIRE AND CHESHIRE BEE-KEEPERS' ASSOCIATION.

The tenth annual meeting of the above Association was held at their room, 2 South John Street, Liverpool, on Monday, February 15th, 1892, when there were present the Rev. J. F. Buckler (Bidston), Messrs. Wm. Drinkall (Lancaster), W. E. Little (Chester), G. P. Mulock (Fleetwood), T. D. Schofield (Alderley), J. Rogers (Flixton), J. A. Bally (Oxton), J. Bell (Davenport), P. Harbordt (Birkdale), C. Wade (Kirkby), Wm. Lees McClure (Prescot), and H. H. Lindon (Bebington).

In the absence of the President, the Rev. J. F. Buckler was unanimously asked to take the chair. Letters and messages of regret for their absence were received from the President, Lord Lionel Cecil, Colonel Herne, and Messrs. Geo. Roberts and Wm. Lyon.

Mr. Wm. Lyon sent a book for the library, which was received with thanks, and regrets expressed at his absence through illness. After some discussion as to the form in which the accounts were made up, the report and balance-sheet were adopted. A vote of thanks to the Committee and officers for the year 1891 was unanimously agreed to.

Lord Lionel Cecil was re-elected President for 1892. Mr. C. H. Neville, Bramall Hall, Stock-

port, was added to the lists of Vice-Presidents. The Rev. J. F. Buckler, Messrs. J. E. Scotson, T. Verdon, R. Bennett, Wm. Tyrer, T. D. Schofield, Wm. Drinkall, J. Bell, G. P. Mulock, and J. Rogers were unanimously elected as the Committee, with Wm. Lees McClure as Hon. Treasurer, and F. H. Handy as Hon. Auditor.

The appointment of Secretary, Librarian, Honorary Local Secretaries, and Expert was left to the Committee. Mr. W. Broughton Carr and Colonel Herne were appointed the representatives to the B. B. K. A.

After a vote of thanks to the Chairman, the annual meeting was closed, and a Committee meeting was held, the Rev. J. F. Buckler being unanimously chosen Chairman for the year.

Committee meetings to be held the third Monday of each month from March to September.

Letters were read from Messrs. Lindon and Harbordt with reference to the Secretaryship, and they were referred to a Sub-Committee.

NORTHAMPTONSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of this Association was held on Saturday afternoon, February 13th, at the offices of Mr. Morley, Northampton. There were present Mr. A. L. Y. Morley, Mr. J. Francis, Mr. and Mrs. Ball, Mr. Collins, Mr. Cox, Mr. Baldwin, Mr. Adams, Mr. Manning, Mr. Atkins, Mr. Williams, Mr. Hefford, &c.

Mr. A. L. Y. Morley (President of the Association) read the report, which was as follows:—'In presenting the ninth annual report and statement of accounts for the year 1891, your Committee have great pleasure in stating that they have received a grant of 25*l.* from the Technical Educational Committee of the Northamptonshire County Council, and hope to make good use of it in the coming year. The accounts show a balance in hand of 4*l.* 19*s.* 11*d.* The annual show was held at Delapré in connexion with the Northamptonshire Horticultural Society's show on August 3rd and 4th. The severe winter and cold, late spring, was the cause of many stocks perishing. Nevertheless, it was very satisfactory to see so large and fine a display of honey staged after a very short honey season. The duties of judging were kindly undertaken by the Rev. R. A. White (St. Giles'), Mr. J. Shaw (Moulton Park), and Mr. J. R. Truss (Ufford Heath). On the first day of the show, the bee-tent was under the management of Mr. Truss, who lectured to large audiences. On the second day, Mr. Ball kindly undertook the lecturing, but the weather was most unfavourable for manipulation. The bee-tent was also sent to Fawsley and Long Buckby Flower Shows in charge of Mr. Cox, and to Brackley Agricultural Society's Show in September in charge of Mr. T. E. Adams. The number of subscribers for 1891 was seventy.' The Hon. Treasurer handed the President the accounts for the past year, which were gone through and considered satisfactory and passed.

Mr. Hefford proposed a hearty vote of thanks to the President, which was seconded by Mr. Cox, and carried unanimously. Mr. J. Francis proposed a vote of thanks to the Hon. Treasurer (Mr. Atkins), and the President proposed a like vote to the Hon. Secretary (Mr. Hefford), and also the Auditor (Mr. Francis), which were duly passed. The election of officers for the ensuing year was then proceeded with. Mr. Collins proposed the re-election of Mr. Morley to the Presidency. Mr. Morley, in returning thanks, expressed the pleasure it gave him to again accept the Presidency, and said anything he could do to further the interests of the Association he should be very pleased to do, and he hoped the course of lectures shortly to be given would be the means of inducing many, particularly the working classes, to keep bees. He was a keen bee-keeper himself, and always very pleased to see a few hives of bees in a garden, and to get acquainted with the owner. The other officers elected were as follows:—Hon. Secretary, Mr. R. Hefford, Boughton, Northampton; Hon. Treasurer, Mr. G. E. Atkins, Kingsley Park, Northampton; Hon. District Secretaries and Committee, the Rev. J. Phillips (Weston Favel), Mr. H. Collins (Berry Wood), Mr. J. R. Truss (Ufford Heath), Mr. C. Cox (Brampton), Mr. W. Manning (Northampton), Mr. J. Cox (Badby), Mr. and Mrs. Ball, Mr. J. Francis (Northampton), and Mr. T. E. Adams (Culworth).

MELROSE BEE-KEEPERS' ASSOCIATION.

The usual monthly meeting was held on Saturday, Feb. 13th, in the Music-room of the Ormiston Institute. There was a fair attendance of the members. The minutes of last meeting were read and approved, and the resolution proposed at the last meeting, to add a Vice-President to the list of office-bearers and to increase the Committee of Management, so as to include in it representatives from the neighbouring villages, was unanimously carried. Mr. John Wishart, Secretary of the Scottish Bee-keepers' Association, was elected as the first Vice-President, and took the chair.

The subject for discussion was 'Feeders and Feeding.' Nearly all those present gave their views on feeding bees and on the various appliances connected with it. There was an exhibition of feeders of various descriptions, including some of Continental design, lent by the President of the Association, Sir Thomas D. Gibson-Carmichael, Bart.

The subject which will engage the attention of the Association at the next meeting is 'Bee-flowers.'

SCOTTISH B. K. ASSOCIATION.

The first annual report is being prepared by the Hon. Sec., Sir T. D. Gibson-Carmichael, Bart. It will be most interesting reading to all bee-

keepers, especially those who are resident in Scotland, containing, as it will, reports on the season contributed by the members resident in nearly every county in Scotland and a report of the annual show. It will be embellished with well-executed portraits and a view of the first show of the Association at Stirling. The report will contain a full list of the members, and bee-keepers in Scotland are now invited to join the Association, so as to receive a copy. Application for membership should be made, accompanied with the annual subscription (2*s.* 6*d.*), to Mr. John Wishart, Melrose, the Assistant Secretary. At present there are nearly 150 members, and it is hoped that this number may be considerably augmented. Midlothian heads the counties with twenty, Stirling has fourteen, and Roxburgh ten. A few counties have not as yet contributed any representatives, but is to be hoped that many resident in the north of Scotland will join, in view of the proposal to hold the annual show in connexion with that of the Highland and Agricultural Society at Inverness in July. Any information regarding the benefits to be derived from membership, or the affiliation of local Associations with the Scottish B. K. A., will be supplied by the Secretary, Mr. John Wishart, Market Place, Melrose.

THE 'MARSHALL' FUND.

We have received the following donations to the fund for the benefit of the widow and seven young children of the late Walter Marshall, whose case was mentioned in our last issue:—

	£	*s.*	*d.*
British Bee Journal	2	0	0
T. W. Cowan	2	0	0
Messrs. Geo. Neighbour & Sons ..	2	0	0
Mr. Bray, Handsworth Common ..	1	0	0
Rev. Dr. Bartrum	1	0	0
John Walton	0	5	0
Sympathy	0	5	0
T. Greenhalgh	0	5	0
John Bull (Thrapston)	0	4	0
Major Michael	0	2	6
R. Welford	0	1	0
John Bradley	0	0	6

POINTS IN BEE-KEEPING.

A Massachusetts apiarian, in a paper read before a Massachusetts farmers' meeting, told how to treat a sulky colony of bees. He said: 'A very good cure for a sulky colony is to take all the brood away and give full sheets of foundation. When all swarming is over with, look the section cases over, and jump the filled boxes to the outside, and bring those just started on to centre. In a few days more a new set can be placed under the filled cases on the strongest colonies. Those that are slow in filling up had better be kept in one case, and new boxes added by rows in the centre, and gradually tapered down until the close of the clover season. As soon as the clover season has passed, all the honey remaining on the hives should come off and the brood frames be examined. Wherever honey is found in any quantity it should be uncapped, extracted, and the empty combs returned to the hives whence they came. We have found that it does not pay to leave honey in the hives after clover fails. It is better to extract it and feed it back when necessary, as the bees will do just as well, if not better, without it, for they will make their own living during pleasant weather. If left on the hive, they will use it for brood-rearing out of season, and thus consume it needlessly. If needed for winter stores, we have it ready to feed back at any time.—*Weekly News* (*Auckland, N.Z.*).

[We insert the above extract at the request of a correspondent, without, however, endorsing all the statements contained in it. Few bee-men in this country will appreciate the 'point' conveyed in the latter portion of the paper, except to condemn the system pursued by the writer of it. Robbing bees of the food in brood chambers after the clover season is over, for the reason given, viz., 'If left on the hive they will use it for brood-rearing out of season, and thus consume it needlessly,' is surely not good management. We should say that rearing young bees in the autumn—bees which will be found lusty and strong the following spring—is one of the most important 'points in bee-keeping' we know of. Referring to the second extract sent on 'Bee Poison for Rheumatism,' the subject is not new, and has been fully dealt with in past numbers of the *B.J.*—Eds.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL-BROOD REMEDIES.

[937.] Yesterday (Feb. 5th), with the thermometer standing at 41°, and a strong wind blowing, the bees of six of my ten stocks were off 'over the garden wall' on plunder bent, and as this is a sadly infected district, I fear me that in a few weeks' time I shall be face to face with foul brood in pretty acute form. I have, therefore, been trying to make up my mind as to the remedies easiest applied and most effective in operation. In carrying out this attempt, *Bees and Bee-keeping* was first consulted. Here,

however, at the onset the salicylic acid treatment was rejected, as even the patient author of that work pronounced it but 'vexation of spirit' when compared with the phenol cure. Turning to the latter, I find 'One ounce of phenol crystals (=carbolic acid, No. 1) will be sufficient for 40 pounds of syrup, ¼-ounce for 10 pounds.' Now, the quantities here named are very simple and workable, but (1) which ounce is meant, avoirdupois (437½ grains) or Troy (480 grains)? (2) What, also, may I ask, is meant by 'phenol crystals (=carbolic acid, No. 1)?' Consultation of Calvert's list and the catalogues of two wholesale chemists gives no clue, no mention of crystals being made, and carbolic acid being offered in liquid form by all three firms.

Again, as an alternative, Professor Cheshire gives '¼-ounce of liquid carbolic P. B. for 9 pounds of syrup.' He does not say which kind of syrup, thick or thin; but, as it is intended for brood-rearing, I take *thin* syrup to be the correct article, and write on the margin of my copy of *Bees and Bee-keeping*, '4 pounds sugar + 2 quarts of water + ¼-ounce liquid carbolic P. B.= 9 pounds of medicated syrup.' But, again, (3) what is 'liquid carbolic P. B.?' for its name appears not in the lists.

Again, in prescribing an antiseptic paint for hives, he mentions 'good white fluid carbolic acid.' (4) What's that, if you please?

Doubting my ability to find time to carry out the phenol cure, I turned to *British Bee-keeper's Guide-book*. Here, for the second time, the use of salicylic acid was passed by for reasons given above, though an article in this month's *Nineteenth Century* on 'Influenza and Salicin' leads naturally to the conclusion that the drug in the acid form may be a powerful preventive.

In the recipes prescribed in the *Guide-book*, the words phenol and phenyle are used. (5) What's phen-*ol*. and what's phen-*yle*? My chemist says 'one's t'other;' but, of course, that can't be right.

The formic acid treatment seemed to me to require more than ordinary care and judgment for common folk, and, besides, there is a good deal of indefiniteness about the prescriptions, so I passed on to the eucalyptus oil remedy, which appears to be as simple, and is, perhaps, as good as any if the genuine oil can be obtained; but (6) can we depend on the quality of the oil, considering the extraordinary demand for it as a preventive of influenza?

After all, the Naphthol Beta and naphthaline treatment commends itself to my attention, now that the quantities are simply expressed, as 'three grains of the former to each pound of sugar' is easily remembered, and half-inch of albo-carbon not easily forgotten. I have tried the Naphthol Beta in some very bad cases, but cannot say with what result at present.

(N.B.—My bees treat *small* pieces of naphthaline as rubbish, and cast them out with other *débris*.)

Possibly some of the above queries may appear simple or even needless, but the paramount importance of having the right materials and correct quantities will, I trust, be sufficient apology for puerile importunity, if such it be.

One more question, and I have done. (7) Do foul-broody combs ever show their empty cells of a dead black colour, as represented in the plates of both works afore-mentioned?—E. B., *Northants*.

[1. Avoirdupois weight is always meant unless otherwise specified. 2. Phenol or carbolic acid is sold in different forms, and under different designations. There is *absolute phenol* in detached crystals. *No. 1 carbolic acid*, in solid or circular crystalline masses, is of the same degree of purity as absolute phenol. There is also a liquid form of No. 1 carbolic acid, which contains six per cent. of water added to the above. *No. 2 carbolic acid* is also made in crystals and in the liquid form. No. 4 and No. 5 are only in the liquid state; you will probably find it named *Acidum carbolicum cryst.* P. B., or *Liq.* P. B. The one stands for crystals, the other liquid, and P. B. means *Pharmacopœia Britannica*. (3) This means No. 1 carbolic acid liquid of British Pharmacopœia strength. (4) No. 2 carbolic acid liquid would be meant here. (5) Phenol and phenyle are different. Phenol is pure carbolic acid, or what we have already described as absolute phenol and No. 1 carbolic acid. Phenyle is a creolene, and is a liquid having a tarry odour. Phenol is poisonous and very corrosive, whereas phenyle is non-corrosive and non-poisonous. It is perfectly miscible in water in any proportions, which phenol is not. It is just as powerful a disinfectant as phenol, and, for the above reasons, infinitely better. Little's soluble phenyle can be had of most chemists, or of the manufacturers. (6) This query it is impossible at present to answer, but, no doubt, if the demand exceeds the supply, some unscrupulous persons may be found to even adulterate eucalyptus oil. We presume a larger dose would be required of the adulterated article than of the pure. Try pieces of naphthaline too large for the bees to carry out. We think, on the whole, the Naphthol Beta treatment is the simplest and the most promising. (7) The dead black is the nearest approach to the very dark brown (almost black) that can be obtained in engraving.—Eds.]

IN THE HUT.

'Der Winter ist gekommen
In seinem weissen Kleid,
Hat Blumen uns genommen,
Den Garten zugeschneit.'

Claudius (1743-1815).

[938.] Although I do not speak German, yet I have a brother who plays the German flute, so give you a free translation of the above: 'The Winter has come with his white coat on, and stolen our flowers and stopped up our garden with snow.'

Bees are flying in spite of snow and ice, for nearly every day the sun breaks out with considerable power, warming up hives (especially thin ones) until their foolish inmates feel quite justified in *having a fly round*, followed by a rest on hive fronts, railings, &c., subsequently followed by rigours and 'the long rest,' as a billiard-player would say. When I allude to

them taking an unseasonable fly, I do not mean a member of the order *Diptera.*

I was clearing away a few dead bees the other day, when the thought struck me that this duty should always be performed as expeditiously as possible; in fact, it should be attended to 'by wire.'

Mr. Dyche (913) asks for a little information about my own bees, whether kept in the Hut or no. I have pleasure in answering him. The present Hut was built at the end of 1887, so so that I might have greater facilities for observing the ways and doings of bees. It was made comfortable by a pretty kamptulicon floor covering, let-down table near a swing bee-escape window, warmed (the Hut, I mean) by an oil stove on a bracket (the fumes of which were supposed to be drawn up an inverted tin funnel, along a pipe to the outer air. This arrangement nearly lost you your 'X-Tractor' once upon a time, for feeling drowsy one Saturday afternoon, after I had 'fired up' immensely, the thought struck me, as I was going to sleep, that carbonic acid gas produced the same symptoms. I sprang up, put a light to the funnel, and saw the flame *descend;* went outside, put a light to the outlet tube, and saw the flame drawn in. (Had I arranged to commit suicide I could not have devised a surer scheme.) Seated on a low, lang settle, covered with a soft Oriental rug, a table (between me and the light) supported a glass hive of bees; glass everywhere but floor-board and corners. The entrance was cut in the side of the Hut. Here I have passed many pleasant and, I hope, profitable hours; but I had to give up 'bees in the Hut,' for in winter my movements about the place, and the heat from the stove, used to disturb them, and although they always came out remarkably strong in spring, I knew such conditions as I gave them were abnormal, and, therefore, the results of my operations would be unfair. About my own bees. I stupidly insist on keeping only the plain English bee, having seen enough of other kinds to convince me of its all-round superiority. Again, I leave to the bees themselves the duty of re-queening when a revolution is desired. I find, the older I get, the more my bees prosper by being left to their own devices; of course, under the watchful eye of the master. I do not pull the brood nest to pieces, excepting to see that the queen is laying; don't extract from it; don't make artificial swarms, don't spread brood. In fact, there is a lot of 'don't' in my nature. I do, however, let the bees go into winter quarters with plenty of natural stores, and in spring I uncap by scratching the combs in order to stimulate breeding. I do slowly feed in spring, and clap on supers just when the white edges appear on the cells of brood stores; and I do keep them warm and well ventilated in dry, clean, well-painted hives. I do use a veil and 'a little of something' on my hands, and I do get stung if I don't do both. I don't love bees, but I do love to keep them.

There is a discussion going on about the advisability of giving drone foundation in sections. My own objection to this plan is, the finished section does not look so nice, because of the comparatively large size of the drone cell, just as a large check pattern on a small surface does not please the eye so well as a smaller one. The capping of drone-cell honey to me seems to favour what we call 'weeping.' Examine one section against the other, and the drone cells show up dull and grey in comparison to the bright white of worker-cell honey.

Since the above was written it has been discovered that 'X-Tractor' had a relapse of influenza three weeks ago, the sequel this time being such that he must *not* hurry for any one or anything; so he is going to hurry this to a close, with a mild attempt at a joke, and—brother Walton, get ready—another prophecy.

The former: If a man, manipulating hives without legs (the hives, not the man, being without legs—that's wrong; the hives being without legs, I mean), if he have to '*stoop* to conquer,' surely he is *bent* on succeeding!

The prophecy: A roaster of a summer! How's that, umpire? I have got a bit of broken glass ready to be smoked—I do express myself *so* badly. I don't mean that I have found a substitute for tobacco, but that I am intending to look at the sun through a piece of smoked glass. There is a spot somewhere near the centre, easily so visible, for it is about 2,000,000,000 (right! nine 0's) of miles big. And it is a fact that years in which sun-spots have been visible have been years noteworthy for great heat. Anyway I hope that this year old Mother Earth will be a solar—X-Tractor.

BEE-KEEPING IN PALESTINE.

[939.] The *B. B. Journal* comes in weekly, so we remain in the current of what happens in apiculture in Europe.

In the Editorial in number for January 14, just in, I see that in England few people follow apiculture as their sole occupation, because the country is too thickly populated to allow of the establishment of large apiaries. Now, here in Palestine, I think it is very much the same, as regards the first item: few people, if not we alone, follow apiculture solely; but then, it is not because the country is too thickly populated, but, I fear, because of the contrary. Though this business is very remunerative the Arabs don't take to our methods, and the Europeans object to the nomadic state of affairs. The villages, as a rule, are well filled with bees; but, unfortunately for the bees, agriculture is encroaching on the better portion of the bees' forage, *i.e.,* the wild melliferous plants growing on waste lands. Therefore, pastoral apiculture would be the sole undertaking for 'serious' results. We have had only one absolute failure these last twelve years, *i.e.,* 1888, but we have other causes which stand seriously in the way. The climate filled with malaria, which is sure to take hold of the European, exposed to the divers extremes of temperature, as in following apiculture he is obliged to be; the dreadful heat in

the treeless country, and the moist nights; and, on the other hand, the ever-jealous eye of Moslem rule, which sees a help to the destruction of the Turkish Empire in every thriving industry carried on by the 'Franks'—consequently it does its best to stop progress by Franks.

Some Jewish Russian refugees have learned for two years, and are having good results. How long the Government will be before it checks their progress is doubtful. Two of my brothers left the country, and carried away 200 hives with them (without bees) to Algeria, where they work the North African (so-called Punic?) bees. This exodus somewhat stopped the unjust taxes levied on us. Will our present tranquility last? We have no time to let the bees build comb for themselves, so we employ full sheets of foundation, and find the investment pays very well. As we work only for extracted honey we would have nothing but drone combs, built in such colonies as are able to build at all, if we did not put in full sheets. We don't allow the swarms to build, but just take a frame or two of the full colonies each in exchange for comb foundation. Very few natural swarms issue in our ever-extracting system, as all is interchanged—brood nest and all—thus bringing all stocks to the nearest possible level; the weak are built up by the strong. In passing the apiary in review a standard is taken of twelve or less frames of brood, and thus the swarming fever is ever checked, whilst queen-cells are always destroyed, and drone comb avoided. Still, there are always plenty of drones, reared in corners and in some overlooked cells, and queens are reared in nuclei. No queen is kept over two years. In fifty cases out of a hundred our bees supersede them before this time, and we do the remainder. Thus, No. 9 hive, called *T. W. Cowan*, which had a queen on March 4th, 1889, superseded her; the new one was born May 22nd, 1891, and having shown no decreptitude, immediately after the orange blossom, of which the hive gave fifty-four pounds, we therefore depended on her good qualities, but the bees did not; they often know better.—Ph. S. Baldensperger, *Jaffa, January 29th*, 1892.

BURYING BEES FOR WINTER: AN EXPERIMENT.

[940.] Perhaps some of your readers would be interested in the result of an experiment I have been making. About the middle of last October I completely buried a small cast by heaping dry earth over it and then covering all with clay. The bees were on about eight-inch square of comb, with four pounds of syrup and one pound of honey. The only ventilation was secured by means of a wisp of straw from the mouth of the skep to the surface of the earth. Six weeks later I obtained a glance at them by removing the earth, so as to lay bare the central feed-hole. The bees were lively and well, so I covered them up again at once. I have only once since seen them, and that was a fortnight ago. As far as I could see from feed-hole, they were *very* strong and in splendid condition. I could see some sealed food. I am now rather undecided how to treat them—whether to dig them up at once and feed them, or to put a small cake of candy over hole, and let them remain until May. Can any one tell me if burying bees has been tried in this country? I believe it would save a great deal of food and anxiety for the welfare of the bees. I am thinking of trying this experiment on a larger scale in the autumn.—Witney, *Oron*.

DO BEES DAMAGE FRUIT?

[941.] I do not think that the question as to the amount of damage caused by bees to fruit-growers has been fully sifted. It is with a hope of receiving more information on the subject from you, or some statistics from those of your readers who may have been troubled therefrom, that I now take the liberty to address myself to the pages of your *Journal*. My beehives are in a garden abounding in wall-fruits. During the month of August last there was hardly a ripe pear or a ripe greengage which was not swarming with bees, determined to steal as much saccharine matter as possible from the juicy fruit. I do not think that the well-known dictum that bees cannot penetrate the skin of the fruit either prevents the evil or is satisfactory to the fruit-grower, because it is easy enough to have the skin first burst through by some other insect; it is after the 'first rift is made in the lute' that the chief damage is done. No doubt this autumn was an exceptional one; the wet season drove the bees to obtain fodder from anywhere they could get it, and perhaps earlier feeding would have stopped the evil; but it was on the finest days in August that I particularly noticed the mischief was done, when you would expect the bees to be going abroad 'to fresh fields and pastures new.'

Now, to point out to a fruit-grower, who sees his choicest fruit daily becoming a prey to the bees, that it was only owing to these same insects that he has any fruit at all, does not appeal to him in the least. He has ocular demonstration of the damage done, and naturally is inclined to grumble at his neighbour's enthusiasm for bee-keeping; while probably the fertilisation of his blossoms by bees is a subject unknown and unintelligible to him. Greengages, in particular, are a fruit whose skin is easy enough to pierce; indeed, when they are fully ripe their skin is liable to burst from the warmth of the sun. Might I, then, through your columns, ask for information on the following points:—(*a*) Have bees ever been known to cut through the skin of such fruits as pears, greengages, &c., in order to get at the sugar? There seems to me no great improbability in their doing so, as they do not take long to make holes in the covering put over their frames. (*b*) Do they store the saccharine matter thus found in the cells, in the same way as nectar, or is it only a meal seized for the nonce in order to

save them from immediate starvation? (c) What fruits have they a special predilection for?

Apologising for thus trespassing on your space, but taking as my excuse the importance of the subject, and the fact that we bee-keepers often look at only one side of the question.—AMBROSE OGLE.

IMPROVING COMB FOUNDATION.

[942.] May I suggest in the *B. B. J.* that brood foundation should be made with half an inch of one edge left plain, *i.e.*, without the impression of the cells? This could be easily done by not passing this edge through the rollers, and the advantages would be that a split top bar—say Lee's frame—would not be bulged out as it is at present with the extra thickness of the cells. Besides, if a top bar is bulged with foundation, the uncapping, when extracting, is a much more difficult process. It would also be convenient for those who fix their foundation with melted wax, as the hot wax would run much more readily down the sheet of foundation if left smooth than it does at present.—ARTHUR J. H. WOOD, *Bellwood, Ripon, February 19th.*

BEES WINTERING IN AN OAK STUMP.

[943.] I yesterday visited the woods on the banks of the 'river Erme,' and found, in the hollow of an old oak stump, a lot of bees with eight combs hanging from the top of the hole, which was about 18 × 10 inches. The edges of the combs were all exposed to the north, and no protection whatever. Upon closer examination I found that four centre combs were covered with bees. I put a stick into the hole, but I had to beat a hasty retreat. I should think those bees must have been there during the late severe weather, with no protection, and yet they are strong and healthy. I should like to take them, but how would you advise me to do it?—J. C., *Ivybridge, Devon, February 9th.*

OUR HONEY IMPORTS.

[944.] I have just been reading your article on 'Our Honey Imports' on page 61 of *B. B. J.*, in which you advocate the extension of bee-keeping in England because we import such large quantities of foreign honey; but I fail to see the good of such extension, because the demand seems to be for foreign and not English honey. Although last year was not a good honey year there seems to be more than is required, for during the last few weeks there has been offered for sale in the *B. B. J.*, I think I may say tons of honey (some of it as low as 6*d.* per pound), and not a single inquiry for honey during the same period; and last week I see a correspondent wrote of the difficulty of finding a good market for honey. I know with many bee-keepers it is difficult to sell their produce now, so how will it be when bee-keeping is extended as you wish to see it?

I know bee-keepers now who have beautiful *extracted* honey which they are offering at 5¾*d.* per pound, and they cannot find customers for it, and that makes we ask, Where is the rise in prices spoken of in your article?

Last year was a rather poor one in this district for honey. My average for fourteen hives was about twenty pounds per hive. Foul brood is unknown here. I have lost four stocks this winter out of twenty-five, two in skeps and two in bar-frame hives. I am giving a cake of honey to each hive now. I keep all English bees, as I believe they are better for this country than foreigners.—RICHARD FEW, *Hunts, February 19th.*

[The remarks we felt it our duty to make in the article on 'Honey Imports' were based on facts within our knowledge about which there can be no dispute; and, whilst freely admitting there may be bee-keepers who find a difficulty in disposing of their produce, we know that nearly all of good quality and moderate price which has been advertised in our columns has been *sold*. Why bee-keepers who have 'beautiful extracted honey' to sell at 5¾*d.* per pound have not found customers it is not for us to say. Perhaps our correspondent will ascertain what measures were taken to find a market.—EDS.]

LEAKY ROOFS.

[945.] The note of 'Alpha,' Stamford (p. 67) in your last issue, only shows the multiplicity of modes there are connected with the mechanism of beehives of arriving at satisfactory conclusions. My mode of keeping my hives quite dry is the best method for me, and his plan is the best for him, and I have no doubt for many others. I may mention the zinc covers have been on the hives for five years, and I know nothing of any buckling. They are screwed on, and the screw-holes so placed that no rain gets in them. The nail-holes have never enlarged in the slightest. I think it took my man ten minutes to put the zinc on each hive, and they have stood untouched since. The hives are certainly in exposed situations.—JAMES DISMORR, *Gravesend.*

STOCKS FOUND DEAD.

[946.] I had a look at my bees on the 9th February, and gave them a cake of candy, made as per recipe in Cowan's *Guide-book*. I started winter with seven stocks, all healthy and well provisioned with good sealed heather honey. I laid two sticks over the frames for passage-ways, and covered well up with warm felting when packed away in November. I also gave naphthaline to each stock. I found that one of the weakest had gone down, and this with plenty of honey, having two full frames and three partly

filled. They were flying well in the early part of the week, before I found them dead, though not so freely as my other stocks. I enclose some of the bees and a piece of the comb. Will you kindly say if there is any and what disease? I fancy it is dysentery, as the frame-tops and combs are covered with a soft, dark-coloured substance, like excrement, the bees having travelled over the tops of frames between sticks very freely. You will see sealed honey on the opposite side of comb to where the dead cluster is, and that frame—the worst—is very thickly covered. There were two combs with dead bees, the rest being dead on floor-board. There were a few still alive. I took out dead bees, and closed hive till I hear from you in *Journal*. Please advise what to do with the rest, especially honey-combs; the others I think of destroying. Am happy to say the other six stocks are very strong and healthy, going over top of frames like in spring, and they soon began at the candy with pea-flour in it. There is not the least sign of anything wrong with any of them; the one lost had no sign of death at the entrance, which was quite clear: I always look to that. The bees of my remaining six stocks have been flying as in summer whenever the days are fine. Thanking you for past favours and for the valuable information in *Journal*, which is eagerly looked for.—W. B., *Hutton Rudby*.

[From the mouldy condition of bees sent, the bulk have evidently been dead some time. We attribute death to paucity of numbers and consequent inability to maintain the necessary heat to enable the bees to reach food, though there was plenty on the other side of the comb. When the cells of a comb are found quite honeyless, and each one occupied with a dead bee, it is an almost sure sign that death has resulted from cold and want. The combs with dead bees should be burnt.—Eds.]

REPORT FROM SOUTH SHROPSHIRE.

[947.] The welcome sunshine of the last few days has had the effect of bringing our favourites out for an airing after confinement to their hives for something like three weeks. The 2nd ultimo was bright, warm, and sunshiny at midday, and, taking advantage of these favourable circumstances, at the wish and in the presence of an intending purchaser, I made an examination of a stock, and was surprised to find a laying queen and several good patches of healthy brood in every stage of development, from the egg just deposited to the perfect insect emerging from its cell. When one considers that this was observed on the day after New Year's Day, following very severe weather, with much frost and snow, and with more than twelve degrees of frost on more than one occasion, the vitality and fertility of *Apis mellifica* is certainly remarkable. The bees were English blacks, crossed with the progeny of an imported Carniolan queen, and this particular stock was wintered on plenty of natural stores, double walls, with three quilts on top of frames.

In this neighbourhood stocks seem to have wintered well so far, but at the same time they appear to have consumed a goodly quantity of food, and, unless hives are well provisioned, feeding will ere long be necessary in many instances. The aconite, snowdrop, and hazel catkin are now in blossom, but no appreciable forage is available as yet. Results in 1891 varied very much in this district. The honey crop in my own immediate locality was, on the whole, a meagre one. The honey obtained was light in colour, and of good consistency and flavour, and much of it granulated very soon after being extracted.

Six miles away, at Willey, on the Rev. Lord Forester's estate, a good surplus was secured in some cases; but, taking the district generally, the honey harvest for the past year may conscientiously be written down as 'fair to middling.'—J. Edmund Roden (*District Secretary, Shropshire Bee-keepers' Association*), *Oldbury, near Bridgnorth, February 4th*, 1892.

PRIZE SCHEDULES.

[948.] Under the present system of honey-showing some reform is very much required. As an exhibitor on a pretty large scale, I have always felt that our larger shows give no consideration whatever to distant exhibitors. The very fact that honey is so difficult to carry safely in transit ought to be a good argument in favour of smaller quantities to form an exhibit. What is the good of asking twenty-four sections or jars to be staged if one-half would answer the purpose equally well, or twelve sections if six would do? The risk of breakage and heavy expenses in sending honey to a distance of, say, 300 miles, compels many of our leading exhibitors to abstain from competing at all, while, if the open classes were so arranged that small quantities would meet the requirements, our shows would be better patronised, and prove more successful, and the competition would be keener. Take, for instance, Castle Douglas show this past three years: the competition for three jars was never under forty entries, and last year it was fifty-one, and sections nearly the same. For my own part I think in all our big shows there should be an open class for a single one-pound jar and a single one-pound section, charging, say, 1s. for each entry. With a good prize or a medal offered, this would bring out the very best honey from all parts. I hope to hear some other opinions expressed on this subject.—John D. McNally.

Queries and Replies.

[487.] *Getting Rid of Faulty Combs.*—Having two fairly strong stocks of bees in Standard frame hives on very dilapidated combs and broken frames, I should like to remove them to new ones, but have no spare comb to give them. I thought, perhaps, if I could buy a few new straight combs on frames—1. Would this be

advisable? if not, would you kindly tell me the best method and time when I could operate, as soon as possible. 2. Is there any way I can tell cane sugar from beet?—C. BRADLEY, *Tottenham.*

REPLY.—1. We don't advise buying frames of ready-built combs unless you could be assured of their being perfectly healthy. The combs may be renewed, one at a time, by filling new frames with full sheets of foundation, and, when weather is warm and bees are strong (covering, say, five frames), removing one of the *outside* combs, and inserting the sheet of foundation right in centre of the cluster of bees. This is really what is called 'spreading brood,' and can only be safely done when there are plenty of bees in the hive. Repeat the operation at intervals of a week or so, until all the outside combs which contain no brood are replaced by new ones. 2. Only experts can tell the difference.

[488.] *Preventing After-Swarms.*—I am only a new starter in the bee-line, and often read where bee-keepers would like to stop 'after-swarming.' Now, supposing the first swarm had issued; when the second swarm had come off you had secured it in a skep: would you destroy the young queen and return the swarm to the old hive? I thought by that we should 'strengthen' the original hive, and save use of the other hive. Please say if you have tried it or no.—BUMBLE.

REPLY.—It is quite a common practice to prevent the *re*-issue of second swarms by returning the swarm early on the morning of the day after that on which it issued. No killing of the queen is needed; leave that to be settled by the bees themselves.

[489.] *Candy Feeding.*—1. I gave a fairly large cake of candy to my one stock; how long will it be before they require another cake? 2. When should I begin to feed with pea-meal candy? I think the *B.B.J.* an excellent paper both for information and interest.—LOXLEY MEGGITT.

REPLY.—1. It depends on what is meant by 'fairly large.' If it weighed two pounds examine in about three weeks to see if it has been consumed. 2. Not till end of March.

[490.] 1. Up to the present time I have always used scouring-flannel as the first covering over the frames, and find that the bees stick it so tightly with propolis, they are seriously disturbed when lifting for manipulation. I understand unbleached calico is generally used. Your advice, as to whether calico or any other material would be more suitable, will be much appreciated. 2. I intend to introduce a Ligurian queen to one of my common black stocks this year. What is the best time for introducing? Are the Carniolan bees superior to the common black, as I have half a mind to try them by introducing a Carniolan queen?—ALGOL, *Skegness, February 22nd.*

REPLY.—1. The two best materials to go next to frames are American cloth (used glazed side down) and 'ticking,' such as is used for feather beds. 2. Queens may be introduced any time in summer. As to the superiority or otherwise of foreign queens over the ordinary native variety, it is simply a matter of opinion. Our advice is, be careful and 'go slowly' in the matter of introducing the new varieties. We are glad you have only 'half a mind' to bring in two varieties of foreigners at once. So take our advice, and try one at a time, please.

[491.] *Fowls in an Apiary.*—Could you tell me whether the access of poultry to one's apiary does any harm? My hives being under a zinc roofing, and in the warmest part of the garden, are a regular resort for poultry, which come and roost on the hives. I notice that Simmins and Cheshire both mention that they do good by eating up earwigs. If it should be necessary to put up a wire netting, as it would have to be a few yards off the entrance to the hives, would it be liable to damage the bees in their flight in and out?—AMBROSE OGLE, *Laleham.*

REPLY.—The only risk is to the fowls. Cases have occurred where fowls or chickens have been attacked by bees rendered vicious and irascible by some mismanagement on the part of the bee-keeper. Otherwise we see no danger in fowls having access to the apiary.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

CARNIOLAN QUEENS.—Will the gentleman who, upon a recommendation from Switzerland, sent an order to J. Modic for eight queens, be so good as to send him his name and address, as otherwise M. Modic is unable to execute his order?

TREWERTHA.—You must take first chance to raise the quilt and see the state of the food stores. There is nothing in the bees sent to guide us to a conclusion as to the cause of death. It may only be a seam of bees which has perished through cold.

SMOKER (Kilburn).—The 'large bee' is a queen, and she is an old one. The bees are slightly crossed with one of the yellow races, we cannot say which. As to the future of the stock if, as is likely, it is queenless, the bees had better be united to one of the other stocks.

*** *We have been compelled to hold over till next week several communications already in type, together with some reports of meetings, queries, &c.*

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 506. Vol. XX. N.S. 114.] MARCH 3, 1892. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

(*Continued from p. 72.*)

In these days, when foul brood has to be constantly guarded against, several operations—in themselves both beneficial and desirable—are rendered very risky, and the performance of them, in any but experienced hands, is much to be deprecated. Among others may be mentioned equalising stocks, exchanging hives and floor-boards indiscriminately, giving store-combs of sealed food, &c. Of the first-named, *i.e.*, 'equalising,' we may say that, apart from the foul-brood aspect, we never cared for that particular operation, considering it better policy to keep strong stocks *strong*, and, if necessary, to strengthen weak ones by uniting two such together. With regard to exchanging hives in spring, this is, *in safe hands*, an excellent practice, affording a fine chance for arriving at the exact condition of stocks, as well as ensuring to the bees a thoroughly dry, clean domicile; but in no case should there be any exchanging of either hives or floor-boards, unless it is perfectly certain that all stocks are free from any taint of foul brood. The same may be said of giving store-combs of sealed honey to stocks requiring food. If the honey is known to be from healthy colonies, no better way of feeding exists than inserting a full comb, and it is only by way of caution that there need be any reservation in recommending it.

Dead Stocks.—While on the subject of 'risks' which arise from foul brood, let us repeat a 'hint' given a few weeks ago, and urge that a watchful look-out be kept that all stocks are working whenever a fine day occurs. If an entrance bears a suspicious look the quilts should be raised, and if the bees are found to have perished, we advise the immediate removal of the hive indoors. It is a too common occurrence to hear that the first intimation of a colony having perished arises from its owner observing signs of robbing at the entrance. An inspection is at once made, only to discover that the bees have died from foul brood, and that the mischief has been aggravated tenfold by robber-bees carrying off the food into healthy stocks.

Spring Food.—In giving bee-candy where actual scarcity exists, the bee-keeper should make sure that the bees are really taking the food, or they may starve to death with plenty overhead. If from any cause the candy is disregarded, a comb should be partly filled with good, thick, warm syrup, and inserted close to the cluster. In all spring feeding and stimulating, the precaution mentioned in our last should be carefully observed, by giving close attention to packings and top coverings, and, if possible, adding to the warmth of brood chambers.

Queenlessness in Spring.—Queries already reach us as to re-queening, and asking where queens may be had. In most cases the bees now found queenless have been so all winter—some, doubtless, having lost their queens so long ago as August or September last, and only in very rare instances are such stocks worth the trouble of re-queening. It is therefore best to utilise them by uniting to colonies requiring bees. Where bees of strong stocks depose their queens in spring—as they occasionally do through the injudicious handling of bee-keepers themselves—the case is quite different, and it may pay well to procure a small lot of bees, with a young, fertile queen at its head, to unite to such stocks.

Do Bees Damage Fruit?—This somewhat ancient and oft-debated question was, in our last number, again disinterred by a correspondent, who, being himself a bee-keeper, is presumably not disposed to be unfriendly towards the bees. A perusal of his letter on p. 77, however, conveys the

impression that the writer esteems his fruit more than he does his bees, and, since he asks for information on a few points, we herewith reply: First, never, to our knowledge, have bees been known to attack fruit of any kind unless some inducement is offered, either by the skin of the fruit being pierced beforehand by wasps, ants, or other insects, or that it has become damaged by long-continued wet or being left on the trees till over-ripe. To the second question, as to bees storing in their combs the portion of fruit carried off, we may say they undoubtedly do store the saccharine matter contained therein, but nothing more. That bees do occasionally do some damage in the way described must, with the reservations referred to, be admitted, just as we admit that they have been known, in a few rare instances, to enter village shops or stalls in market-places, and carry off the sweets exposed for sale, but it goes no further than this.

JEDBURGH AND DISTRICT BEE-KEEPERS' ASSOCIATION.

The annual general meeting of the Jedburgh and District Bee-keepers' Association was held in the Sessional School on Saturday evening, February 6th—the Vice-President, Mr. William Marr, in the chair. There was a large attendance. The Secretary, Mr. Thomas Clarke, read the minutes of the last meeting, which were approved of. The Chairman said, speaking in reference to the appointment of a Committee, that it was now, he thought, necessary to have twelve, including office-bearers, instead of nine on a Committee, as at present. He advocated that the new Committee be well spread, or rather that it be chosen from a very wide area in the county. This was the wish of the meeting. The following office-bearers were appointed:—President, Dr. Blair; Vice-President, Mr. William Marr; Secretary and Treasurer, Mr. Thomas Clark. Committee: Dr. Fyfe, Mr. Whellands, Mr. Kerr, Mr. Robert Sinton, Mr. Walter Oliver, Mr. Thomas Turnbull, Mr. R. Fairburn, Mr. Ormiston, and Mr. J. K. Young.

The Secretary read the reply from the County Council anent the application made by the Association for a grant from the funds for technical education. In the reply, it was stated that the County Council had only power to make grants to School Boards, and any money they gave was not for material to be used by an Association like that of the bee-keepers, but by a School Board. The Chairman said they would not be beaten; they would try again some other time.

The Treasurer's report was unanimously adopted. It showed a balance of 5*l.* 15*s.* 1*d.* on the year's work.

A vote of thanks to the Chairman concluded the business portion of the proceedings, after which Mr. Richard Cairns read an interesting and instructive paper on 'How to Become a Successful Bee-keeper,' which was listened to with attention, and heartily appreciated.

BRISTOL BEE-KEEPERS' ASSOCIATION.

The annual dinner of the Bristol District Bee-keepers' Association, in connexion with the usual general meeting, was held on Tuesday evening, February 16th, at the George and Railway Hotel, Victoria Street, under the presidency of Mr. E. J. Thatcher. Among those present were Messrs. Joseph Butler (Treasurer), Appleton, Perrett, Dixon, J. Martin, G. Wyatt, Moon, Jordan, Nurse, and J. Brown (Secretary). The dinner tables were tastefully decorated with ornamental foliage plants and cut flowers kindly sent by Lady Greville Smyth, Ashton Court.

The Hon. Secretary (Mr. J. Brown) read the annual report and balance-sheet, which commenced with the expression of hope that the efforts of the Committee during the past year would meet with the approval of the members. Although they had been greatly retarded by atmospheric influences, the Association continued to make satisfactory progress. The number of members in 1890 was 110, and of this number six left the district and nine resigned, which might possibly be accounted for on the ground that, having derived knowledge from the Association, they no longer required its aid. On the other hand, 75 new members had joined during the past year, making a net increase of 60. Their total membership was now 175. The annual show of honey, &c., was held in connexion with the Long Ashton Horticultural Society. There was a keen competition in all the classes, especially for the Society's medals and certificates. The tent was erected, and lectures on practical bee-keeping were given, with demonstrations, at the following shows:—Totterdown and Knowle, Portishead, Long Ashton, Keynsham, and Kingswood; and at the North Somerset Agricultural Association's Show. Although their income was greater than in the previous year, their expenses had also somewhat increased, so that they were unable to repay the balance kindly advanced by Mr. Butler for the purchase of tent and appliances, then urgently required by the Association. The subscription income amounted to 42*l.* 7*s.*, and the total expenditure was 43*l.* 8*s.* 11*d.*

Mr. G. Wyatt moved, and Mr. Moon seconded the adoption of the report and accounts, which was carried.

Mr. John Martin (the Association's Expert) presented his report, wherein he described the condition in which bees were found during his autumn tour. He concluded by observing that he was glad to report an increased interest in the Association.

Several complimentary toasts were then proposed and responded to, after which the election

of officers was proceeded with. Lady Smyth was re-elected President; Mr. C. Warner, Mr. E. H. Llewellyn, M.P., Mr. W. H. Wills, and Mr. H. M. Appleton were again elected Vice-Presidents; Mr. J. B. Butler (Treasurer), Mr. J. Brown (Hon. Secretary), and Mr. Martin (Expert) were also re-appointed. The Executive Committee was elected as follows:—Messrs. R. Jordan, J. Collins, T. James, R. Hall, M. Harding, and B. Hall. The Local Hon. Secretaries were re-appointed, with the addition of Mr. Dixon (Clifton), Mr. W. E. B. Webly (Henbury), and Mr. Rawbone (Kingswood).

KNARESBOROUGH B.K. ASSOCIATION.

This two-year-old Association held a meeting on Thursday, Feb. 25, at the Cocoa House, when an interesting and instructive paper on 'Practical Bee-keeping' was read by Mr. Charles Atkinson, of Tockwith, a bee-keeper and honey-producer of some note in our broad-acred shire. Being mostly beginners in the art of bee-keeping, Mr. Atkinson's paper was much appreciated, containing as it did practical advice, from the kind of bee to keep to most suitable kind of hive to house them in, and the best way in which to secure the honey harvest. Up to the present time stocks in this neighbourhood have wintered well, and now all we want is a mild spring and a fine summer.—T. MAINMAN, *Hon. Sec.*

HUBER'S LETTERS.

SEVENTH LETTER.

SIR,—If the fear of being indiscreet had not restrained me, I should have begged for news of you a long time ago. I hoped that the Count de Flumet would have brought me some on his return from Savoy, but his business took him in an opposite direction to where you live, and he had not the pleasure of seeing you. Allow me to ask you yourself if your health is as good as I would desire it to be? if your occupations afford you leisure for cultivating your tastes? and if natural history has not offered you anything this year which has aroused your curiosity, and which you could impart to a poor invalid, who would set a great value on these communications?

There is hardly any one here who follows the pursuits that we like. At Geneva there are a few who make collections, but I do not know any true bee-fancier, and one likes sometimes to speak about one's hobbies.

Jurine is about to publish his work on insects; he has already seen some German criticisms of the 'Système' which he has not yet published. You see, Sir, there are people who are in a great hurry to judge, and are ready to make their reputation at the expense of that of others. Their glory will only be short; our friend will triumph sooner or later—that is the usual result of truth.

Yesterday, at the meeting of the Philosophical and Natural History Society, presided over by M. Maunoir, who read us a splendid memoir on aneurism, and the method of curing this disease, Jurine was greatly honoured by rendering justice to the talent of his colleague, and in assigning to the discovery, which he had announced, its proper place, which the modesty of the discoverer did not allow him to give to it. That which characterises our learned men, and what I appreciate the most is, that among themselves there is emulation without rivalry, and from the manner in which they help and support each other, and reciprocate each other's value, it seems that jealousy and envy do not enter into their composition.

M. Colladon showed some branches of *Palma Christi;* two or three varieties of this plant were laden with fruit. He had cultivated them in his botanical garden; their vegetation was a success, and it is to be hoped that it will succeed better still in the southern provinces. As castor oil often reaches us rancid from the isles, and as then it is very dangerous, it is to be hoped that this plant will become acclimatised in Europe, and that we shall be able to have this useful medicine in a perfectly fresh state.

I was anxious this year to find out something about wasps, especially those which live in big societies, and which make their nests in hollow trees and in subterranean cavities, and for that I was waiting to see some of those big wasps' nests. But about here not a single one has been seen. I certainly found some small wasps' nests in the spring on the rose-trees and gooseberry-bushes; it seems that these did not succeed, because very few wasps were seen in the spring, and hardly any in the summer. We have seen none near my hives. You know, Sir, that when there are any wasps they do not fail to visit the hives. Last year, for example, they were very numerous, and when the bees destroyed their drones and threw them out of the way, the wasps, after the manner of crows, took away all the carcases in our presence; sometimes they received them almost direct from the bees. Thanks to their vigilance the ground near my hives was always perfectly clear; this year, however, we had to look after this ourselves.

We have not seen wasps on our espaliers, nor in the orchards, nor on the fruit, which we have dried in great quantities, and which has always been covered with bees or other insects. The sweetened liquors, which attract them to our apartments, the preserves, and even our meat, which they sometimes come to share with us, have not attracted any, and the species seems to have disappeared from this canton. I have certainly seen some hornets, but very few. From all the information I could gather, I am sure that there has been a scarcity of wasps for several leagues round. It would be interesting to know how far this has extended, and still more the cause for this disappearance. Have you observed it in your cantons, and would you, Sir, get some information about it in your neighbourhood?

A M. Gonthar, proprietor of the mineral waters which were discovered in the valley of St. Gervais [in Haute-Savoie], has assured me that it has been observed that there were no wasps there. I could not have believed that I should ever have had to regret them. There are also no *Atropos* here—I could not catch a single one either last year or this; the caterpillar of the potato has not yet appeared to my knowledge. The fear that I entertained in 1804 for our bees of their enormous increase has therefore not been realised. Also those hives which I have observed, not having this enemy to guard against, did not barricade their entrances neither last year nor this, which is as curious as the precaution they take when it is necessary.

With regret I finish my correspondence with you. If you can, Sir, send me news of yourself as soon as possible, and do not doubt the devotion of your humble servant,—HUBER-LULLIN.—*Au Buchet, near Geneva, October 19th*, 1806.

THE 'MARSHALL' FUND.

Referring to the above we have received the following from a neighbour of the late Mr. Marshall, which explains itself, and its publication may perhaps further benefit those for whom it pleads:—

SIRS,—I enclose postal order for 2*s.* 6*d.* for Walter Marshall's widow and family. I was very pleased to see you take the case up in the *Bee Journal*, for, having been on intimate terms with him since he came to Hemel Hempstead, I can assure you it is a most deserving case, and I say this knowing the position he was in at the time of his death. No man struggled more than Marshall did to get a living for his large family; but failing health overcame the poor fellow. He was overlooking his bees on Tuesday, and then the influenza set in, followed by something worse, and he died on the Sunday night following. I was with him a few hours before his death, and he told me his bees were breeding up fast; so the poor fellow was thinking of them to the last. I followed him to the grave. He will be very much missed about here, for he had a kind word for every one that he came in contact with, and he was always ready to assist any one in the bee-line. I have been to see the widow several times, and she told me if any one that had bee-candy from them last season wanted more, she would be pleased to supply orders, her late husband having taught her how to make it. The quality will be the same as before. Perhaps if you could make room for this appeal, some kindly disposed bee-keeper may send her an order. She has also a few hives of bees to dispose of, as she does not understand them.—A WORKING MAN, *Hemel Hempstead.*

Up to the time of going to press the following donations have been received, and we are taking steps to deal with whatever sums may be entrusted to us in order that the money may be judiciously applied:—

	£	*s.*	*d.*
British Bee Journal	2	0	0
T. W. Cowan	2	0	0
Messrs. Geo. Neighbour & Sons ..	2	0	0
Mrs. Bray (Handsworth Common) ..	1	0	0
Rev. Dr. Bartrum	1	0	0
Two Lady Bee-keepers (Paisley) ..	1	0	0
C. N. Abbott	0	10	0
Mrs. C. N. Abbott	0	5	0
S. W. Abbott	0	5	0
C. T. Abbott	0	5	0
Abbott Bros. (Dublin)	0	5	0
John Walton	0	5	0
Sympathy	0	5	0
T. Greenhalgh	0	5	0
Grove House Apiary	0	5	0
C. L. Neave	0	4	0
John Bull (Thrapston)	0	4	0
Major Michael	0	2	6
A Working Man	0	2	6
A. Everett	0	2	6
R. Brown (Somersham)	0	2	6
F. Harper (Uttoxeter)	0	2	0
R. Welford	0	1	0
T. Hallam	0	1	0
John Bradley	0	0	6

HIVES FOR THE HEATHER.

As this is the time when bee-keepers will be thinking of what hives they should use during the coming season, we think it opportune to describe some of the best hives especially made for transportation to the heather.

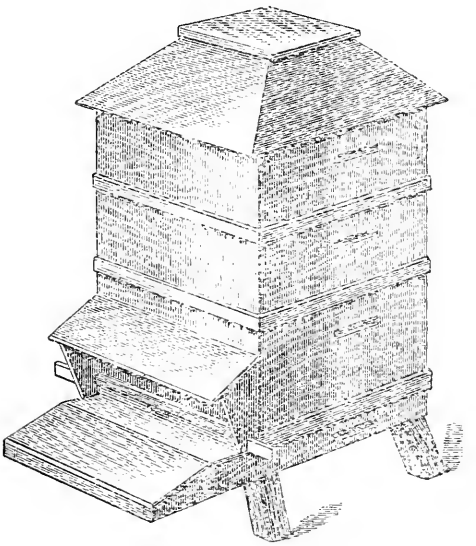
At the Stirling Show there was a special class for hives adapted for sending bees to the heather. These classes, as was to be expected in a land where heather abounds, were well filled, and caused a good amount of interest. There were hives to suit all pockets, from 10*s.* 6*d.* and upwards in price. We shall have much pleasure in giving descriptions and illustrations of some of the principal hives shown.

THE MELROSE HIVE.

This was exhibited by Mr. J. Howard, of Holme, Peterborough, and is adapted for use either as an ordinary hive for the apiary or can be arranged for transmission to the heather. The illustration shows the hive as used in the apiary. This consists of body-boxes on floor-board and stand, on to which are fitted outer covers and roof. The outer covers have a space of $1\frac{1}{4}$ inches between them and the body-boxes. The body-boxes take the standard frames, of which there are nine and a division-board. The frames are wired, so that the combs built in them are perfectly secure. Shallow bodies are provided to take either frames $5\frac{1}{2}$ inches deep or two-pound sections, $5\frac{1}{4} \times 6\frac{1}{2}$ inch hangers, besides a rack of sections, having the same outside and inner covers as the body-boxes. The depth of the outer covers corresponds to that of the body and shallow boxes. The floor-

board is rather peculiar. It is boarded on the under side of bearers, a square space being left sufficiently large to take the bodies when being transported to the heather. The top of the floor is also boarded, and at the back end it is fitted with perforated zinc, which acts as a ventilator. A separate stand fits into the square opening on the under side of the floor.

When it is intended to send the bees to the heather, the floor-board is inverted, and the stand and outer cases being removed, the body-boxes are fastened to the floor by means of the screw-eyes that are let into the boxes for this



purpose. The inverted floor allows the bees to spread their cluster beneath the frames into the space below, and the zinc at the back affords ample ventilation. The roof, which fits over the outer cases, is also made to fit over the body-boxes or supers, as the outer cases are not required when the hives are sent to the heather. As many supers as may be thought necessary are fitted on, and the whole, including roof and floor, are tied together for transit.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

LOCAL BEE ASSOCIATIONS.

[949.] I have had letters from persons in several parts of Scotland asking my advice as to the formation of local Bee Associations. I think, therefore, that perhaps a few hints in the pages of the *B. B. J.* may be acceptable.

I hope that many local Associations may be formed. In Scotland, where the population is not so numerous as in England, and where, as a rule, there are not so many railways, it will probably be found that the area embraced by local Bee Associations should generally be smaller than the areas in England. Local Associations will, I hope, all become affiliated to the Scottish Bee-keepers' Association. The terms on which they can do so are not high, and I hope that very soon the benefits which such affiliation will bring with it may be great. At present, perhaps, they are not numerous; but with the growth of the central Association (and nothing will help that growth more than the affiliation of local societies), we hope that many new ways of helping bee-keepers throughout Scotland will be found.

I should suggest that the subscription to a local Association should be kept as low as possible, and that the rules should be few and simple. The Association which I know best is the Melrose Bee-keepers' Association, a society recently formed. I feel sure that Mr. Weir, the Secretary, or Mr. Wishart, the Assistant Secretary of the S. B. K. A., who lives at Melrose, will be very glad to furnish any one desiring it with particulars as to the rules of the Melrose Association. One very good rule, as it seems to me, which the Melrose Association have adopted is, that at their meetings, which are held monthly, there is always to be one fixed subject for discussion, *e.g.*, this month 'feeders' were discussed, and at the next meeting 'bee-flowers' will be considered. A rule of this sort gives some definiteness to the proceedings, and does not prevent the introduction of other subjects on which any member may wish to state his own opinions, or learn those of others.

Local Associations should set before them the object of keeping up a high standard in the honey produced in their district. With this view it may be well that they should consider whether it would not be a good plan to adopt a label on the lines of that issued by the Berkshire B. K. A. In this connexion, however, I may perhaps state that I am thinking of bringing this matter before the next general meeting of the S. B. K. A.

The success of a local Association will depend very much on the secretary. It is, perhaps, not very important that he should be a great bee-keeper; what is wanted is an active, energetic man, who will try to rouse the enthusiasm of his neighbours, and who does not mind taking trouble.

A local Association ought certainly to prepare a report every year. Such reports cannot but be valuable, especially when, as I hope may be the case, they come to be embraced in the annual general report of the S. B. K. A. I hope that the first annual report of the S. B. K. A. will be ready very soon, and any one who wants a copy should apply to either myself or to Mr. J. Wishart, Market Place, Melrose. — T. D. GIBSON-CARMICHAEL, *Hon. Sec. S. B. K. A.*

HANDLING HIVES INSTEAD OF FRAMES.

[950.] The last effusion of your correspondent, 'J. G. K.' (931, p. 65), is no doubt a masterly one. But how many bee-keepers are there who have either the time, the convenience, and last, but not least, the money to carry out the plan? I quite agree with him that careful bee-men do not disturb their bees any more than they are downright obliged to; not even so much as 'J. G. K.' does. If he cannot judge by the weight of his straw hives how food is, and tell by the 'fly' of his bees when the weather is suitable for them to fly forth, I am afraid he would not gather much knowledge by his 'glimpse' in turning the hive bottom upwards. And then, what careful bee-man would think of pulling his bar-frame hive to pieces, in either winter or early spring-time, to see what his bees are doing? That would be only novices' work. If your careful bee-man of experience had seen his bees fly strong on a flying day, a 'glimpse' under the quilt, without any disturbance, would satisfy him whether they required feeding or not; I, therefore, say, don't handle hives nor yet frames, but use your judgment without either.

Now as regards the system described of wintering his bees in a cellar. I should consider the bees would be much better off on their original stands in his bee-houses, where they could have a cleansing flight when the weather was suitable, than being confined in a cellar for three months, as, besides having the protection of his bee-house, they are naturally protected from all cold winds; and further, if the frost gets too severe, he has his hot-water pipes to bring the hives up to their normal warmth, which I should consider very useful for that purpose, as no doubt it would save the lives of a great number of bees. But when your correspondent talks of heating his bee-houses up to seventy degrees in March, I must beg to differ from him, unless the outside temperature in some measure corresponded with it. In my opinion it would mean the loss of thousands of bees, tempted out by a few rays of sunshine, never to return; whereas, if the hives had been allowed to remain at their normal temperature, they would have remained at home, and thus saved their lives. I have taken the *Bee Journal* ever since 1881, and have tried almost everything that has been recommended during that time, and I have come to the conclusion that the secret of 'wintering' is to have your hives as strong in bees as possible, with plenty of food, and keep them dry. I have tried wide entrances, narrow entrances, and the 'zigzag entrance.' I have also practised contracting by crowding the bees on a few frames, and this winter my fifteen hives had the whole of the frames left in the hives, and nothing done to them since the sections were taken off, only a 'glimpse' under the quilts, to see if they had sufficient food, and when I found they had plenty of stores on the back frames, it was quite sufficient for me. Well, at the present time they are as strong as ever I knew them at this time of the year. I am not like 'J. G. K.;' I want my bees to help keep me—not me to keep them without any return, although they are my hobby.

I am sure it would be very interesting to the readers of the *Journal* if 'J. G. K.' could give us his balance-sheet for last year, or for any other year, and let us compare his system with the ordinary ones in use by most bee-keepers from a commercial point of view.—MAN OF KENT, *February 20th*, 1892.

NOTES BY THE WAY.

[951.] The different styles of packing bees for winter would prove interesting reading, and no doubt helpful to our new recruits. I myself still adhere to the older system of leaving the full number of frames in the hive during the winter months, say nine or ten frames with two or three quilts and a chaff cushion made of unbleached calico (washed before making up), and, as the majority of my hives are on the combination principle, with frames parallel with entrance, the cushions cover the top of frames and hang down behind the dummy, keeping all warm. I also use Hill's device, or at least an equivalent, in three or four strips of wood, bevelled at the ends, laid across the centre of frames, thus giving the bees access to all the frames; these are laid on in the autumn and taken off when the supers are put on, and sometimes before if I have occasion in late spring to overhaul a hive. I like this plan of winter passages far better than cutting holes in combs, a job that used to take considerable time; now, with the wood strips, the job is quickly done, and when the quilts are tucked in carefully at the sides, and the bees have propolised them down, there is no danger of the colony starving with food in the hive, and if a cake of candy is given, lay it over the feed-hole of bottom quilt, and the bees can clear it up, and each seam of bees can reach it in safety, and later on, when syrup feeding is required, the bottle can be inserted over the strips of wood, or the feeding-stage placed on it, and the same facility enjoyed by the whole of the colony in reaching the food without making numberless journeys round the ends or sides of frames after the food. Then another point, and not a minor one by any means, is the facility with which the queen can get to the other side of the comb to extend the brood nest in the spring.

We hear from time to time the advantages of non-porous quilts for spring use, so that the warm, moist heat may be confined to the brood chamber. Those who lean to this view may secure the advantage, if any, by simply putting a square of thick brown paper—or even a newspaper will answer very well—over the first quilt, and then the other wraps and cushion over all. I have tried both porous and non-porous quilts side by side, and, I must confess, I fail to see the advantage of one over the other. Given a good colony, young queen, and good supply of

food, and health, and I question if there will be any difference. I have known colonies that have wintered (even during last severe winter, 1891) come through strong and in good condition for supering early where the empty crates have been left on during the whole of the winter, and with only a single thickness of carpet on the top of the empty sections in the crate. Here was plenty of top circulation, and also some, if not a perceptible, draught through the hive during the winter; but I may add, the owner had, as he called it, 'stopped' them in very closely at the entrance. Perhaps this may solve the problem!

Our South Devon friend wishes to know why I consider excluders are specially required under drone-size combs. In the first place, modern bee-keeping very much restricts the natural habit of the bees in building a quantity of drone-size cells, as our friend will see if he overhauls a straw skep where the bees have built the combs of their own sweet will, or as instinct teaches them—though I admit it is not a constant quantity instinct teaches them will be required for the economy of the colony. In some hives he will find a much larger proportion than in others. Why? I do not know, and I have not seen a satisfactory solution of the question. But this restriction of the natural habit or work of the bees would, and does, act as an incentive to the queen when extending the brood nest in the spring, and the natural impulse of multiplying and replenishing the earth takes hold of a colony in the shape of swarming. To seek out every drone cell so that the prosperity of the colony may be ensured in the future by leaving a sufficient number of the masculine gender; and woe betide a crate of sections, *if of drone-size comb*, should it be placed over a strong colony when preparation is being made by that colony to swarm. Friend Dadant is right in what he stated, that queens prefer worker-size cells, as the colony would soon become extinct if a larger number of drones were reared than workers, because the drones would consume so much of the food during their summer existence that the colony would starve during the following winter. We may reason on the prodigality of nature in producing such a wealth of many things, of which only a small proportion is ever utilised in the economy of nature. As an instance to hand, take the catkins on the hazel boughs at the present time; the tens will be utilised, the millions of grains will be, as far as man can judge, wasted. So with drone-bees; the few will fulfil their mission in life, the many will exist only to subsist on the labour of others. Man, in his finite wisdom—hard and calculating being that he is!—knows this, and hence, to increase his own spoil in the matter, lays the foundation for the busy bee to build to, and thus cribs, cabins, and confines the production of these (to his idea) useless bees, simply because they are not honey-gatherers.

Our American friends are discussing the question of a bounty on honey, now that sugar is so cheap in that country; though I do not think it is cheaper than it is in England, and we bee-keepers, at least so far as I knew, have not mooted a question of the kind, although we get spurious honey and foreign honey—also jams and confections galore, both home-made and manufactured, in immense quantities, and sold at marvellously cheap rates.—W. WOODLEY *World's End, Newbury.*

WINTERING BEES IN CELLARS.

[952.] I can add to my letter (931, p. 65) that by a providential escape, I have slipped out of a terrible accident. My horse reared up in the brougham, the coachman on the box, my wife inside. I got hold of his head with both hands, and stuck to him—unfortunately, perhaps—but we fell backwards in a heap together; therefore can add: 'Friends and neighbours, do not weep; I am not dead, but wide awake.'

I am by birth a German. 'X-Tractor' would say, 'playing the German flute.' Thanks for kind inquiries. Thus, rather severely shaken, I was unable to remove the remaining part of my fifty-six hives out of the cellar after three months' retirement there. I have written to you for the last two seasons about my bee-houses, each for eighteen hives, with room to double and add half-frame hives and section boxes to each. Last November I erected a third one, all with hot-water pipes under the floor, to exclude frost and force on the breeding and speculative feeding by artificial heat in March, April, and May, according to weather. November was mild; and, in order that bricklayers and carpenters might work without fear of the bees, I removed all my fifty-six hives into the cellar, which is 'frost free,' its temperature dry, only varying between 45° and 50° Fahr., that is 13° to 18° above freezing-point (when the coldest outside last winter was 18° below freezing, or 14° Fahr.), perfectly dark and well ventilated. They have remained three months without the least interference, and were left severely alone in autumn, and not fed up. We know it was a poor season. I extracted everything from the surplus boxes; the body-boxes as they were, so they remained.

Three hives went into the cellar 'feather-light,' not weighing six pounds each, including single-walled body-boxes, floor-boards and all! I blame myself for the loss of one stock—a good one. Unfortunately the moss, which closed the entrance in the floor-board during the time of carrying them on the 23rd November, must have been overlooked; it may have been accidentally pushed too far in. To my deep sorrow it had remained in. *It*, the three light ones, and one other are dead, making five out of fifty-six wintered in the cellar. On the 22nd February I took twenty-two out; the next day my accident with the horse occurred, but I could superintend the removal of the remainder from the cellar to the bee-houses. Three beautiful, sunny, warm days followed; every batch of bees had their first cleansing flight the very

next morning. With the bees of fifty-one hives playing in the air, we had a heavy downpour of 'black rain' out of the blue sky, and the natural result.

The hives were unexpectedly hurried into the cellar in autumn, when I erected the third house. I am sorry they were not weighed separately, but I feel sure, by a guess weight from my memorandum on the slate attached to each hive, how they stood 'booked, to winter,' that, after three months' imprisonment, the hives have come out of the cellar in good condition and very little lighter than when put in. Only five pounds—say seven, or even ten pounds, for argument's sake—less in weight on the 23rd February than 23rd November. This was a grand experiment, and proved again that in the unnatural exposure of the bees to cold weather, storms, and rain, as when wintering in the open, the poor bees must unnaturally gorge themselves, to create the necessary warmth to exist and outlive the inclement winter season in this changeable climate. I have fed a few of the hives now with candy. Speculative feeding with boiled, diluted honey commences in small portions by degrees in March, with larger quantities in April. No more sugar; all honey only, with 70° Fahr., or 40° artificial heat assistance, all around the hives in the houses in April and May.

The night before I brought the hives out of the cellar I replaced every floor-board with a clean, disinfected one, and was surprised to find so few dead bees upon the old boards. It appeared that all along the dead have been dragged out, and dropped clear of the floor-board on to the shelf below. I have learned a great lesson, and shall know much better next season, if spared to play my 'German flute,' thanks to 'X-Tractor's' capital letter.—J. G. K., *Grove House, Southborough, Tunbridge Wells.*

BEES IN A BLOCK OF STONE.

[953.] The enclosed newspaper extract has been sent to me. If you think it would interest your readers, I dare say you would insert it in the *Bee Journal*. I know not from what paper it is taken. — A. L. Y. M., *Great Brington, Northants.*

'Two men, in the employ of Councillor Shepherd, builder and contractor, of Cardiff, on Monday made an extraordinary discovery in the Royal Hotel building yard. They were engaged sawing a huge block of stone from the quarries near Bath, when the saw cut through a bees' nest almost in the centre of the stone. Some of the bees were crushed to death, but the living ones came swarming out, frightening the stone-cutters, who beat a hasty retreat. The stone is about six feet square, and how the bees could have got there, and have lived so long in such quarters, is rather a mystery. There is, however, a hole about six inches across running through the stone. This hole seems to have been occupied by the root of a tree. The bees were in the root, and stayed in their strange habitation after the stone had grown around it. How long they had been there is purely a matter of conjecture.'

[We insert the extract, but have no hesitation in saying that it is absurd to suppose that living bees could be found embedded in a block of stone as described. The vivid imagination of the reporter has given it this turn, and if bees were found alive in such a place at all, we suspect that it will amount to no more than their having taken possession of the 'hole running through the stone.' How the 'hole' came there we cannot say, but that living bees should be found with the stone growing around them, we utterly refuse to believe.—Eds.]

A LADY'S BEE-KEEPING.

[954.] I think I cannot do better than begin where I left off last (nearly two years ago) by wishing Mrs. Harrison, 'Beta,' 'Bee-Kay,' and all lady bee-keepers (and gentleman bee-keepers too) a year of great good luck. We have an old proverb—'They never bode a gown o' gowd bit fat they get a sleeve o't;' so I trust this will be a year of the gown to all, as last year (to me, at least) was one of the sleeve only. I have read with great interest the average honey harvests that have been given from time to time in your *Journal* by bee-keepers in various parts of the country, and thought I might send you mine for the last six years. Though by no means a bright record, its very failure, some forlorn and bee-wrecked sister, seeing, may take heart again:—

	Hives.	lbs.
1886	5	190
1887	7	516
1888	12	150
1889	16	700
1890	18	700
1891	18	200

Standing in our apiary, on a still summer night, you can hear, with the hum of the hives, the waves of the Moray Firth breaking on the shore. Too far north, is it not, for the owner of the apiary to cast longing eyes in the direction of tons of honey. No, no, Mrs. Scottish Cousin, you will always manage yours by the hundredweight, I fear. We never have much trouble with our bees swarming, and the increase shown in some years has been principally swarms from skeps and drummed bees. But should our frame hives have old queens I rather encourage them to swarm, and if I am not wanting to form a new colony, I may just say how I proceed:—Of course I hive the swarm first in a skep, then find a doubling-box that will fit the parent hive (the hive-makers would have you believe that their hives, boxes, lids, are all interchangeable—I know better, by bitter experience), place it on something in the shape of a floor-board, spreading a good big cloth in front, throw the bees out two feet from the box, and, if they are not like to run in, take a few spoonsfuls and lay up the cloth to the door. In the long line then formed you will have no trouble in catching the old queen. When all are in, set the box on the top of the parent hive

(it will make no differenee if it forms a third story); everything goes on as if no swarm had issued, no time is lost, no increase if you don't want it, and the hive has now a young queen, and more profitable in every way. I have tried this plan often, and it has succeeded invariably, once only having failed to secure the old queen. I had the swarm again next day, but I got Her Majesty the second time, and had no further trouble. Only those who, like myself, leave the re-queening pretty much to the bees themselves, would care to try this plan. I am too much of a novice to try queen-rearing, and I must say I dearly love to handle a swarm now and again. We have never tried any other kind of bees than the natives, an English swarm being the nearest approach to a bee not Scotch I ever had any fancy for. An order sent for one was never fulfilled, and there the matter rests, and will rest, for I have such a dread of foul brood, of which we read so much in your *Journal*, that I don't think I would care to accept one for nothing; all the same, I don't advise an English bee-keeper to offer me one.

We live in a bee-keeper's paradise here, for I never saw or heard of such a thing as foul brood, and I do not think, by the description given of it, there would be much trouble in finding it out were it present. I hope there is something in the far north that doesn't agree with its constitution, for I am sure I am expressing the wish of all bee-keepers about when I say we have no desire to make its acquaintance. Just one remark, and I have done—and time. In the record sent, as the hives go on increasing from year to year, it may look as if I never had lost one, but, though very fortunate in bringing them through the winter, I have lost several through queenlessness, but never, I think, one from want.—A Scottish Cousin.

LEAKY ROOFS.

[955.] None of your correspondents on the above subject have mentioned what I consider the simplest, cheapest, and lightest covering, viz., 'Willesden card.' It came under my notice first at the Fisheries Exhibition, and I have used it on all my hives in a most exposed situation ever since, after trying zinc, calico, tarpaulin, and asphalted felt. I use the two-ply card. Directions for putting on will be sent with it if asked for. It should be wetted before nailing on, turned over the edges, and nailed underneath eaves, on no account putting any nails in the top. I always use $\frac{3}{5}$-inch tin tacks for nailing on; $1\frac{1}{2}$ yards—2*s.* 2*d.* per yard, I think—will cover from four to six hives, as it is very wide. I only use $\frac{3}{8}$-inch or $\frac{1}{2}$-inch stuff for covers, and the card will last for years if painted annually. No paint is required the first season. Some of mine, done six years ago, are as good as ever. Its lightness is not by any means its least advantage over zinc. I have several times recommended the above in your pages long ago. —W. E. Burkitt, *Hon. Secretary and Expert, Wilts B. K. A.*

DO BEES DAMAGE FRUIT?

[956.] In answer to your correspondent, Ambrose Ogle (941, p. 77), I may say that I have never known bees to do much harm to fruit in orchards or plantations, except perhaps to a few cherries or plums which have been cracked by the rain and hot sun; but it is wall-fruit that they have a special liking for, and I have noticed for some years that they always attack the fruit of several early peach-trees during the month of August, and yet never attack the later sorts. But, still, I think the damage in the first instance is caused by the wasps and ants, and then the bees come by the hundred to share in the spoil; but whether they store the juice I am not able to say for certain, though I should imagine they do. I have often watched the bees running over those fruits which were not dead ripe, and in which the skin was uninjured, but after a few seconds' examination they would leave them, and go to others that were injured. Of course, fruit for market is picked before it is dead ripe, and wall-fruit should be served the same, and I don't think there would be any complaints about our little favourites damaging fruit. — Kentish Bee.

MARKET FOR HONEY.

[957.] I was surprised to read that any one should be so troubled in getting rid of their honey as stated in 944 (p. 78) *B. B. J.* of last week, especially at so low a price as $5\frac{1}{2}$*d.* per pound. In our part of Surrey we get 1*s.* per pound for comb or extracted, and could always sell more than we can get. Bee-keepers about here ask 10*d.* to sell again. I have always looked upon honey at 6*d.* or 7*d.* per pound as foreign stuff and not pure English, and many others I know share my opinion. If we could feel sure of its purity there would be no trouble in disposing of it, but the fear of having foreign stuff palmed off on us as pure keeps us from dealing with it, as it would, if detected, spoil our market for the real thing.—J. Charlwood, *Cranleigh.*

Echoes from the Hives.

Ontario, Canada, January 5th, 1892.—This serene, quiet, lovely morning, all nature is beautiful—the trees, though deprived of their foliage, are robed in frost of finest white, which glitters and blazes in brightest sunlight—not a cloud in all the sky. Kind nature has covered our fields with a blanket of snow, which adds to the beauty of the landscape. My bees are in the cellar, and their stillness is marvellous. A hum in a bee-cellar is not an indication of contentment, it is an unmistakable evidence of *discontent*. When bee-keepers learn to winter their bees properly, you will hear but little more about spring packing and spring dwindling. A hive full of healthy bees, that have not aged by winter cares nor winter work, and have plenty of good stores, will just boom right along in

spring without side packing, but the top of hive must be kept warm by mat or cushion.—S. T. PETTIT.

Honey Cott, Weston, Leamington, February 20th, 1892.—During the first half of this month the weather has been very nice. In looking over my stocks, I found one of my best colonies starved. Vexed I was, to be sure. However, I console myself that it was not wilful neglect: but, as it was a stock that was worked for extracted honey last season, I missed giving them enough food to run them through; so I looked the others all over, and found most of them well supplied. To those that were short, in some cases I gave a bottle of warm syrup, simply because there was no one at home to make candy. Others I gave candy to a few days after. And this week, what a change from between 50° and 60°, with bees fetching water and a regular bustle! This week, as I have said, what with snow, wind, and frost (one night the thermometer was down to 20° of frost), certainly there was a consolation that I was sure, with all this severe weather, no stocks would be running short of food. Spots on the sun, they say, is the cause. Well, I hope they will not come across the sun in the summer. I wonder whether the weather chart foretold this rapid severe change?—JOHN WALTON.

Church House, Northiam, February 22nd, 1892.—To-day's warmth and bright sunshine brought the bees out in great numbers, and I am pleased to notice pollen is being collected by some of the strongest colonies. Snowdrops and crocuses are fast appearing, so also are the catkins of the willow.—J. MORETON LORD.

Queries and Replies.

[492.] Referring to the article on 'Prevention of Swarming,' on p. 53 of your issue of the 11th, is it possible to obtain, commercially, large sections, about 13 × 4¼, to be used in place of three of the ordinary one-pound sections?—A. B. T., *Blackheath*.

REPLY.—There are no sections 13 × 4¼ at present on the market, nor does it seem likely there will be, seeing that the two-pound section has largely dropped out of use because of it being generally less saleable than the one-pound ones.

[493.] *Transferring Bees and Combs.*—I have bought a stock of bees which were caught last June and hived in a *butter-basket*, and have been there ever since. I want to put them in a hive; when will be the best time to do it, and which way would you advise me to do it? (The bees have made combs in the basket.)—T. KENNETT.

REPLY.—Transferring bees and combs from a 'butter-basket' to a frame hive is an operation requiring some amount of skill and experience, and if, as we gather from the above communication, you lack both these qualifications, we advise no attempt at transferring, but that the bees be made as warm and comfortable as possible for the winter, and allowed to swarm early next summer. By that time you will have gained some experience of bee-keeping, and we will be glad to advise you how to go to work.

WEATHER REPORTS.

COUNTY CARLOW, IRELAND.

January, 1892.

Average rainfall	0·59 in.
Greatest rainfall in 24 hrs., 17th ..	·72 „
Number of days on which rain fell	14
Maximum temperature, 30th ..	52°
Minimum „ 12th ..	18°
Max. ground temperature, 30th ..	45°
Min. „ „ 12th ..	7°
Max. mean „	41·48°
Min. „ „	31·35°
Frosty nights	22

This month (January) was one characterised by frost, and bees consequently kept prisoners. Snow covered the ground for six days. Things, however, changed towards the end of the month, and bees were flying freely on the 30th and 31st. —JOHN HENDERSON.

WESTBOURNE, SUSSEX.

February, 1892.

Rainfall .. .. 1·18 in.	Sunshine, 83·35 hrs.
Heaviest fall .. ·36 „ (on 17th, snow)	Brightest day (17th) 7·35 hrs.
Rain fell on .. 14 days.	Sunless days, 7.
Below average.. ·17 in.	Below average, 14·45 hrs.
Max. temp. 49° on 8th.	Mean max. .. 42·4°
Min. temp. 20° on 17th.	Mean min. .. 32·8°
Min. on grass, 16° on 17th.	Mean temp... 37·6°
Frosty nights, 13.	

Though the rainfall has been small, the month has been damp. All my hives are strong and well. The bees have been out, on an average, every other day, and the crocuses were ready for them.—L. B. BIRKETT.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, of replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

T. MAINMAN.—Thanks for cutting. It does not contain anything very instructive, but we may use it when matter is short. The second one, on the sting of bees, appeared in our columns some time ago.

YORKSHIREMAN.—It must be distinctly understood that we cannot hold ourselves responsible for the condition of second-hand stocks of bees advertised for sale in our columns. In all cases intending purchasers should have a guarantee of their healthiness before buying.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

HONEY—'ARTIFICIAL' AND 'MANUFACTURED.'

Once again it becomes necessary for us to say a few words by way of allaying, or removing, any uneasiness likely to arise in the minds of bee-keepers in consequence of the introduction to public notice of a 'manufactured' article boldly put forth as intended to supersède the natural product of the honey-bee. The moral pointed by good Dr. Watts is to go by the board, and the 'busy bee' no longer held up for the emulation of our young folk, seeing that the little labourer's occupation will be gone, and the improvement of 'each shining hour' relegated to other—shall we say?—*hands* than those of *Apis mellifica*. The vision, so dear to the mind of the poetically constituted bee-keeper, of 'busy masons building shining roofs of gold' wherein to store 'nectar fit for the gods,' becomes a dissolving view, which finally resolves itself into a picture in which the dark, grimy, generally unclean, and not very toothsome surroundings of a sugar refinery occupies the foreground.

Seriously, however, it would seem as if the pursuit of bee-keeping was foredoomed to the periodical infliction of a scare of this kind, and that respectable manufacturers—and adulterators who are not respectable—at certain intervals make a dead set against honest, natural work on the part of bees and bee-keepers, apparently fancying that fortunes are to be made out of honey *that is not honey*, and that consumers will increase in a ratio proportionate to the quantity of artificial stuff palmed on to them. Why, bless their innocent hearts! it takes us all our time to foster and increase the demand for genuine honey by urging upon our bee-keepers the need for putting it on the market in attractive style, and by offering for sale none that is inferior in quality, except for manufacturing or kindred purposes. Moreover—and we say it with the perfect sincerity of conviction—there is no room, and not the shadow of a chance of ultimate profit, for the interloper who tries to fight the legitimate business of honey-producing with no stronger weapon than a manufactured substitute.

Many readers of this *Journal* will remember the 'artificial honey' brought out some six or seven years ago by an eminent firm of sugar manufacturers. It had all the advantages attached to the high standing of the firm which introduced it, and was placed on the market in the best form. We commented on it at the time, and foretold its failure; and we would like to ask any one to-day what has become of that particular substitute for honey, and where a jar of it could be bought? The present milder scare would appear to be making itself felt chiefly in some parts of Scotland, and this article is written mainly because of some letters which have reached us within the last few days directly bearing upon the subject. A correspondent, writing from Annan, N.B., says:—

> 'In a circular sent out by a certain "Supply Company," I see, among the things offered to agents, one hundred pounds of "*artificial honey*," to be sold to families at 3*l.* 4*s.* (or about 8*d.* per pound) retail, with a profit of 32*s.* to the retailer.'

Referring to this offer, our correspondent asks:—

> 'Would it not be well for the British Bee-keepers' Association to look into the matter, and see how best the affair could be exposed, if not punished?'

We do not see what action can be taken by the 'British,' or by any Association in the matter, because there seems nothing to 'expose.' The article is apparently sold to agents as 'artificial honey,' while, from the wording of the circular, no false pretence is attempted, and without false pretence there

is no ground upon which any one can be 'punished.' If the retailer chose to call it genuine honey, and sold it as such, the case would, of course, be different.

Another correspondent sends a cutting taken from a popular journal, in which appears the following—

'Valuable recipe for making Artificial Honey, sent post free, 1*s.* postal order.—[We omit the name for obvious reasons], Mill Bank, Dreghorn, Ayrshire.'

If this is intended as a bait to catch Scotch bee-keepers, it will fail, for we misjudge our northern friends very much if they can be induced to part with their superfluous postal orders by it.

As a plain matter of fact, the speculative persons who are causing this very mild flutter of excitement among a few of our bee-keeping readers are making a mistake. They fancy they have got hold of a good thing, and, to use an Americanism, they try to 'boom' it. But it won't do; we know it won't; and if readers will just ignore these various schemes, designed to take away from us the legitimate results of our pleasant hobby, they will die out, as they have done before, leaving no impression or ill effects whatever on the well-doing of the pursuit.

Our attention has also been drawn to some rather unseemly differences of opinion among American bee-keepers regarding the question of feeding bees with sugar syrup in order to produce fine sections of comb honey (?) at a time when genuine nectar cannot be had. We have not overlooked the discussion referred to, and intend to make some allusion to it shortly. Not that we attach so much importance to it as our American friends seem to, because it is an 'old story' with us. Some years ago many hundreds of copies were annually sold of the late Mr. Pagden's pamphlet, *How I made Seventy Pounds a Year by my Bees.* In this the main point was feeding bees with sugar syrup to enable them to fill supers. It was, we suppose, tried—probably well tried—and found wanting, for we now hear nothing of the book or the method it advocated, and we can tender our brother bee-men on the other side of the Atlantic the consolation given above to our friends on *this* side, viz., to quietly 'bide their time' for a little while, and the gentlemen who 'manufacture' honey, along with those who feed sugar syrup to obtain it, will leave the whole business to the bees and to legitimate honey-producers.

NOTTS BEE-KEEPERS' ASSOCIATION.

The annual meeting of this Association was held on Saturday, February 27th, at the People's Hall, Heathcote Street, Nottingham. The President (Viscount St. Vincent) sent a telegram expressing his regret that he was not well enough to attend the meeting, and the chair was taken by Mr. F. H. Fisher (Farnsfield). Mr. Hill and Mr. Wootton, of the Derbyshire Bee-keepers' Association, were amongst those present.

The balance-sheet showed that the total receipts for the year amounted to 71*l.* 4*s.* 5*d.*, and that, after meeting current expenses, the adverse balance of 6*l.* 9*s.* due to the Treasurer at the outset of the year had been reduced to 1*l.* 12*s.* 7*d.* Thirty pounds (within sixpence) was distributed in prizes at the six shows held during the season at Wollaton, Moorgreen, Beeston, Southwell, Hucknall, and Arnold. The accounts and report were approved and passed.

Viscount St. Vincent was re-elected President. The Duke of Portland, Lord Newark, M.P., the Mayor of Nottingham, Ald. Manning, J.P., Mrs. Hind (Papplewick), and Mrs. Chambers (Alfreton), were elected Vice-Presidents, and the following Committee was appointed:—Messrs. Marriott, Warner, Baggsley, Rawson, Linley, Forbes, Watts, White, Fisher, Simpson (Mansfield Woodhouse), Simmons, and Poxon. Mr. Scattergood was re-elected Auditor, and in proposing the re-election of Mr. Arthur G. Pugh to fill the joint office of Treasurer and Secretary, suggested that a telegram be sent informing him of his reappointment and sympathising with him in the accident he had sustained, which prevented his attendance. This was unanimously approved and agreed to. Mr. John White was reappointed Assistant Secretary. It was stated that in order to ascertain the amount of honey gathered during the season the President had offered prizes for the best results.

Mr. John Howard delivered a lecture on bee-keeping, in the course of which he gave practical hints and replied to a number of questions. A discussion followed, and the usual drawing for prizes concluded the business.

Since the above meeting we are glad to learn that Mr. Pugh has so far recovered as to return to his home, and that, although still weak, he hopes to be able to attend to all indoor work connected with the secretaryship of the Society.

LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the Leicestershire B.K.A. was held in the Old Town Hall, on Saturday, February 27th. The Rev. T. C. Deeming (Wigston), presided, and among those present were Messrs. W. P. Meadows, T. J. Clarke, T. B. Widdowson, J. S. Shenton, J. Underwood, C. Redshaw and Fulshaw, Miss Chester, Miss Throsby, and Mrs. Fulshaw, H. M. Riley (hon. secretary), G. Munday and J. Page (experts),

The Committee's report for the year was presented. They had great pleasure in reporting considerable progress during the twelve months. There was a balance on the right side financially, and they had had a better honey season than the previous year. Having referred to the shows and the judges' reports thereon, the Committee expressed their thanks to the Committee of the Abbey Park Show for their grant, and hoped that they would see their way either to give a larger grant, or offer prizes themselves in the bee and honey department of the next show. The Committee also reported that the experts had done good service during the past year. Most of the members had been visited. A formal application was made in May last by the Secretary to the Leicestershire County Council, for a grant in connexion with technical education, so that experts might be permanently engaged to instruct cottagers in practical bee-keeping. Five other County Associations had obtained grants. The balance-sheet for 1891 showed total receipts amounting to 40*l.* 9*s.* 9½*d.*, including a balance in hand at the commencement of the year of five pounds. The year closed with a balance in hand of 8*l.* 8*s.* 3½*d.* The report was then adopted. The following were constituted the Committee for the ensuing year:—Mr. T. Carter, Leicester; Mr. L. Fosbrooke, Ravenstone Hall; Mr. W. P. Meadows, Syston; Rev. M. A. Thomson, Thistleton; Mr. J. Cooper, Belgrave; Mr. T. J. Clarke, Aylestone; Miss Chester, Waltham; Mr. T. B. Widdowson, Leicester; Mr. Councillor Bowles, Leicester; Mr. C. Redshaw, South Wigston; Mr. Ernest Leavesley, Leicester; Miss Ada Throsby, Leicester; and Mr. J. Munday.

The next business was the election of Hon. Secretary. Mr. H. M. Riley expressed a wish to retire, but, at the unanimous request of the meeting, consented to again fulfil the duties, and was reappointed. Mr. A. Harding was appointed sub-secretary for the Loughborough district. Referring to grants from County Councils, Mr. Riley said he had received a letter from the Organizing Secretary of the County Council Committee on Technical Education, stating that the subject of the grant was down upon the agenda of the Technical Education Committee at their meeting on the 25th inst., but owing to the length of the agenda, had been adjourned. He (Mr. Riley), had been requested, by the Organizing Secretary of the County Council, to call upon him and discuss the matter, and he had promised to do so. Mr. Meadows then gave an interesting address upon 'Bee-keeping up to Date.'

HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting was held on Monday, Feb. 29th, at the Woolhope Room, Hereford, the Rev. James Oakeley in the chair. Mr. Oakeley having intimated his settled intention of resigning the post of Hon. Secretary and Treasurer, a hearty vote of thanks was accorded him for his helpful services, and Mr. Alfred Watkins, of Hereford, was elected to the vacant office. Mr. J. Thomas was elected local secretary for the Hereford district; the Rev. F. S. Stooke Vaughan as auditor; and the names of the Revs. J. Oakeley and E. Brown and Mr. Parlby were added to the Committee. The accounts, showing a balance in hand of about 4*l.*, were passed, and the reports of the Hon. Secretary, Expert, and Hereford Local Secretary were read and passed. The application made by this Association to the Technical Education Committee of the County Council for a grant of 50*l.* was referred to. It was explained that the proposed method of applying this grant would be to send a practical expert and lecturer through the country in a properly equipped travelling van, to give practical demonstrations with hives in the afternoon, and short lectures or talks in the evening. A magic lantern and set of suitable pictures would be used to illustrate the evening talks. Should a portion only of the sum applied for be granted, the travelling van (which would involve the Association in a considerable primary expenditure) would have to be dispensed with, and the tour made in another way. A proposal was made to have medals struck for the Association, in order to grant them as extra prizes to local flower shows, more especially to the cottager classes. It was suggested that the portrait of Dr. Bevan (author of *Bevan on the Honey Bee*, and the pioneer of advanced bee-keeping in the county) would be a suitable device for the medal. It seems doubtful, however, whether any portrait of Dr. Bevan (who died in the earlier half of the century) exists, and any information on this point would be much appreciated by the Hon. Secretary.

A HYPOTHESIS ON THE PROPAGATION OF FOUL BROOD.

Your last number was, as usual, very interesting on the subject of foul brood. May I give you my opinion on the persistence of this disease in certain countries?

I have been enabled, from the investigations I have made in different parts of my district, to establish the presence of foul brood. Particularly this disease broke out at Pers-Jussy (canton Reignier); soon after this it destroyed an important apiary at Cornier, a commune distant a few kilometres; from there, continuing its progress upwards and in an easterly direction, several apiaries at Eteaux and at La Roche perished; the evil rose higher towards a very melliferous slope called Orange; it then spread in descending towards the east, to St. Sixt and St. Laurent, six or seven kilometres further on, and all this progressively in ten years. At St. Laurent, St. Sixt, and Orange the disease is now endemic, and reappears here and there. This region forms a vast slope on

the northern side, and extending from west to east a distance of about twelve to fourteen kilometres. The spread of foul brood from apiary to apiary in this district to me appears certain. Is it always caused through robbing? I think not. It is very possible that healthy bees, foraging on flowers already visited by bees from a foul-broody hive, take, either by their hair or by their tongues, the spores or germs of the microbes of foul brood described by Mr. Cheshire, and observed by Mr. Cowan and the eminent member of the Faculty of Medicine at Lyons, Dr. Lortet, whose works have thrown so much light on this terrible scourge of our bees. Robbing, or dangerous visits—here then are two incontestable causes.

According to my opinion, there must be a third. When, as has sometimes happened, the hives have been destroyed in an extensive district, or when foul brood has been cured one year and is found to reappear the next, without one being able to discover actual contact or infected neighbourhoods, is it not reasonable to suppose that the germs of infection are endowed with sufficient vitality to pass the winter months on the ground, or in the crevices of wood or trees, preserving their virulence just as do the germs of splenic fever of sheep? or even that the bacilli of foul brood are preserved in a healthy condition in the organs of insects whose physical constitution is similar to that of the bee? I rather lean towards this last hypothesis.

The discoveries of Pasteur, the work of his pupils—this recent science of micro-biology which has rendered such a service to humanity in curing hydrophobia, splenic fever, in preventing so many infectious diseases—have thrown a curious light on the strange existence of these small organisms, microbes, bacilli, &c., on their successive passage through the body of different animals and man—on the modalities which their virulence presents in passing through different media, and in the cultures where their natural properties are attenuated or exaggerated.

By analogy we must suppose that the bacillus of foul brood can live not only in the organs of the bee or its larvæ, but also inside the wasp, the large hornets, and perhaps also in humble-bees, all of which have, in their method of life and in their constitution, so much resemblance to the honey-bee.

The wasps, especially in our climate, are of several varieties, and their rapacity can be compared to that of the tiger towards other races, the perch towards other fish. Wasps are constantly on the watch in the vicinity of hives; more hardy than the bees, less sensible to cold, they effect their depredations from early morning, and when a weakened or diseased hive is robbed, they come there in large numbers. Does the foul-broody honey that they absorb poison them? Does it poison their brood? Does not their greater vitality permit them, on the contrary, to resist this parasite, while it is preserved in their organs, and even externally in the folds and hairs of their bodies?

If it is so, the female wasp, which passes the winter hidden in crevices, and which reappears in spring, to commence the first of its occupations, viz., to enter the hives round which it gnaws, cannot this female introduce afresh this germ of evil, a germ rendered more virulent than when she had absorbed it in the autumn by the fact of its having passed through her organism? She roams through the hive with alacrity, returns to it; she shakes herself in it, and the bees, still drowsy, have great difficulty in expelling her. It is easy to conceive that if she is infected, the infection is fatally propagated, and foul brood must reappear.

On the other hand, cannot the humble-bees, which it is well known also collect honey and store it in their nests in the ground, also take with the honey the germs of foul brood left by foraging bees in the flowers, then introduce it into their combs, which are frequently found deserted in the ground, and where the following year the bees certainly know how to find these provisions ready made? The instance you mention of foul-broody honey found in the trunk of a tree* would justify this supposition, which would explain—like the hypothesis of the conservation of foul brood in the body of the wasp—the reappearance of the malady which was supposed to be extinct.

It seems to me that it would be interesting to make experiments on these two points:—

1. Does the wasp of the different species in our districts take the disease? Does it succumb to it? Does its brood suffer and die from it? If it takes the disease, are the bacilli and their germs preserved in its organs?

2. Can humble bees also contract the disease as well as their brood, and does their honey become infected?

It would be easy to make wasps take infected honey, as also humble-bees, by introducing it into the holes leading to their nests. But the examination of the results produced would not only necessitate the intervention of a microscope, but also of a scientist used to such researches. If your learned correspondent from Lyons, Dr. Lortet, would give you his opinion on this question, no doubt his answer would give some light, useful to those unfortunate bee-keepers who are suffering from this plague, almost incurable at the present time, and the apprehension of which causes so much anxiety to those who are as yet exempt from it.

However it may be, we ought all to destroy wasps energetically. Our apiaries attract them in spring, and the bee-keeper should then trap them. We will, perhaps, gain by preventing them bringing the terrible disease, but we shall assuredly render ourselves, as well as our neighbours, a signal service in preserving our fruits and grapes, which the wasps devour during hot weather, if we bear in mind that every wasp destroyed in March or April is a laying queen, and the founder of a nest which is thus pre-

* See *B. B. J.* for 1891, page 478.

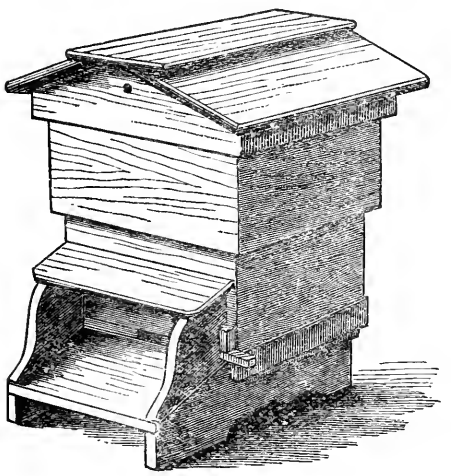
vented by killing her.—F. Morel-Fredel, *Bonneville.*

P.S.—I forgot to mention that all the apiaries about which I have spoken, and which have had foul brood in them, are composed of straw hives, and that in this instance the fixists cannot lay the blame of the propagation of foul brood to movable-comb frame hives; here it is the contrary.—*Revue Internationale.*

HIVES FOR THE HEATHER.

Single-walled Heather Hives.

The hive shown in the illustration was exhibited at the Stirling Show by Mr. R. Steele, of Newport, near Dundee. It is, as its name implies, a single-walled hive, but the upper case slides down over the body-box. The stock hive contains ten frames with metal ends, and two division-boards. The lift is of a suitable depth for two racks of sections, and by simply inverting it slips over the stock hive, forming an outer case for winter. There is a roof and stand with porch, as seen in the illustration, which



shows the hive as used in the apiary. The arrangements for the heather consist in the following. The floor-board is made double with 1¼-inch air-space between, one side being formed of ⅞-inch deal and the other of perforated zinc turned down at front and back so as to raise the air-space. The alighting-board and porch are made to be detached, and are kept in position by means of hooked plates of iron. By means of this arrangement the hive can be packed for transit in the least possible space, as the projecting alighting-board and porch are removed and there are no projections whatever except the one inch round the roof. Iron hooks are attached to the hive, which, when closed, secures the floor-board and other parts in a solid block.

A similar arrangement was also shown with a double-walled hive. The only defect, which is easily remedied, is that the frames are not the standard size. There is so little difference between the two that it is a pity the 'standard' has not yet been universally adopted. There are so few hives now made or used with any other frame that it is certainly to the advantage of manufacturers to adopt them.

THE 'MARSHALL' FUND.

	£	s.	d.
British Bee Journal	2	0	0
T. W. Cowan	2	0	0
Messrs. Geo. Neighbour & Sons ..	2	0	0
Mrs. Bray (Wandsworth Common) ..	1	0	0
Rev. Dr. Bartrum	1	0	0
Two Lady Bee-keepers (Paisley) ..	1	0	0
'S. E. D.'	0	10	0
C. N. Abbott	0	10	0
Mrs. C. N. Abbott	0	5	0
S. W. Abbott	0	5	0
C. T. Abbott	0	5	0
Abbott Bros. (Dublin)	0	5	0
John Walton	0	5	0
Sympathy	0	5	0
T. Greenhalgh	0	5	0
Grove House Apiary	0	5	0
F. H. Lemare	0	5	0
Mrs. Dunne (Moorhouse Hall) ..	0	5	0
Wm. Woodley	0	5	0
A Young Friend (Birmingham) ..	0	5	0
C. L. Neave	0	4	0
John Bull (Thrapston)	0	4	0
Major Michael	0	2	6
A Working Man	0	2	6
A. Everett	0	2	6
R. Brown (Somersham)	0	2	6
Rev. G. W. Bancks	0	2	6
'N.' (Stafford)	0	2	6
F. Harper (Uttoxeter)	0	2	0
R. Welford	0	1	0
T. Hallam	0	1	0
John Bradley	0	0	6

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts* (*see 1st page of Advertisements*).

QUEENS FERTILISED IN FULL COLONIES WITH A LAYING QUEEN.

[958.] The letter of 'J. G. K.' (646, p. 239) should have had a reply from me long since, but it has been delayed. Now, a very interesting article (894) on the same subject, by the same writer, appears on p. 596, Vol. XIX., and

I will endeavour to fully explain the apparent differences in the experience of Mr. Doolittle, myself, and others concerning the above topic to our friends over the water. I will premise by saying that I consider this subject one of the most interesting that can engage the attention of bee-keepers at this time, since it is intimately connected with many of the most recent and valuable of our new methods of handling bees for profit.

About seven years since I first observed that bees would start queen-cells in the supers of hives if the combs contained unsealed brood that was separated from the mother queen by a queen-excluder. It became at once interesting to know if such queen-cells would be allowed to hatch, and, if so, whether the young queens would become fertile if a fly-hole from the super was provided. My first experiments all proved that the young queens would be 'balled' and killed about the time they were ready to seek a mate. Entrances were made in the rear of some of the upper stories, and in the front of others; but the results were all the same. I then put the virgin queen in the lower story, and the mother queen in the upper, and found that the former was then never interfered with, but was fed and nursed up for the wedding trip in the usual manner. The next season, by a series of experiments on an extensive scale in the use of a new queen-rearing chamber, which was divided into compartments by the use of perforated zinc, I discovered that there were times when the workers would tolerate any number of virgin queens in a hive so divided, and a good part of them would become fertile. These times were during a good honey-flow. At other times the queen-cells would all hatch—I had thirty in one hive—and there was peace and quiet until the queens got ready to mate. Four of the queens became fertile, and then there was general war among the workers, apparently over the remaining unfertilised queens. Many workers were killed, and some of the queens, but many of the latter were not fed for a bridal trip, and so never attempted to fly out, and were left undisturbed until too old to mate. During a good honey-flow it was easy to get three or four fertile queens in each colony, but I soon saw that in every case the bees divided up, and formed independent colonies, and when the adherents of any queen became few, she would be 'balled,' and so, one by one, the queens would disappear. After a little it became clear that, no matter how or where the perforated zinc was used in a colony containing a laying queen, if the virgin was so placed that an independent colony could be established, she would become fertile. In such case the workers adhering to the virgin queen would all fly out at and return to the entrance provided for her, while the workers that adhered to the mother queen would all fly out at the main entrance. It appeared that at length but few workers would pass the perforated zinc intervening between the queens. Now, if 'J. G. K.' will bear these facts in mind, he can always determine just what the workers will do with a virgin in a hive with a laying queen. If he can arrange a super or any other part of a hive with a virgin separated from her mother by the zinc, so as to establish an independent colony, then she will become fertile. But if it is arranged so the queens can come in contact with each other, as through one sheet of the zinc, they will quarrel, or attempt to, when the workers will interfere and attack ('ball') the virgin, with the usual result.

Friend Doolittle rears his queens in, and secures their fertilisation from, apartments not directly connected with the brood department and the laying queen, and so he readily secures the necessary independent colony for each queen, and the farther away this colony is removed from the mother queen, the more certain is the virgin to become fertile.

In my storifying hive, which is nearly identical with the Cowan hive (only the brood frames are but seven inches deep), if a story containing a virgin is provided above a laying queen in a lower story, and separated by queen-excluder zinc, the two stories make so compact a colony that it does not seem to be possible for a lot of bees in the upper story to establish an independent colony above the excluder, although a good entrance is made in the back end of it; and so it happens in every such case the virgin queen will be killed, as heretofore stated in the bee-papers, and also in my book. There is an exception however, and that is, the bees may swarm if the conditions favour it. But they will only swarm when there are other queen-cells about ready to hatch. Then both the queens will go out with the swarm, and after hiving, the virgin will be killed, if the laying queen is not removed. Again, if the parent queen is caught in a trap at the entrance of the hive, and the young queen only goes out with the swarm, the bees will attach themselves to her, and sacrifice the old queen if she is hived with them. These results have been proved over and over again, and there are no exceptions to the rules as stated. It will be understood, of course, that the laying queen has not become superannuated. Hence it will be seen that I am right, and Mr. Doolittle is right, and the difference in the results has proceeded from the causes stated. — Dr. G. L. Tinker, *New Philadelphia, Ohio.*

(*To be continued.*)

HIVES FOR THE HEATHER.

[959.] The hive you gave a plate of in the *Journal* last week as being suitable for the moors has two of the greatest faults for the purpose it is possible to have. In the first place, it is necessary, to prevent the combs breaking down, to have plenty of litter at the bottom of your cart—hay or straw. It is impossible to get a hive with legs to stand steady on hay or straw.

In the second place, with such a wide alight-

ing-board as shown in plate, hives would take up far too much room, so that instead of being able to pack, say, eighteen on a cart, you could not get more than a dozen on. I designed a hive last year suitable for the purpose, and also for every other purpose—storifying for extracting, &c.—and had twenty-four of them in use last year, and am so well pleased with them that I am making twenty more, and shall use no others. In packing for the moors, I have only to fix a piece of perforated zinc over the entrance and put a cord round—no fixing of floor-boards or crates (which, of course, travel on the hives), or frames, &c. You can pack a waggon-load in an hour. If any bee-keepers would like a pattern hive I will try and get a local maker to put some together, and will see that the work is done correctly. There are two decided novelties in the hive, which is simplicity itself. It has double walls.—ARTHUR J. H. WOOD, *Bellwood, Ripon, March 7th.*

COLOUR OF GRANULATED HONEY.

[960.] As 'Amateur' (Query 486, p. 67) invites opinions with regard to the patches of white that appear through the glass of some bottles of granulated honey, I think it will be found that these white patches are caused by certain atmospheric properties. In other words, the honey containing the white patches must at some time or other, while in the liquid state, have come into active contact with the air, that is to say, a contact accompanied by a certain amount of friction and energy. French bee-keepers are well aware that the combination of air with liquid honey, under the influence of a certain amount of energy, causes such honey, when granulated, to become lighter in colour, and for that purpose they give all dark honey a brisk stirring before it begins to granulate, to improve its colour, and thus the darker qualities of honey are made to more nearly approach to first grade, so far as colour alone is concerned.

The white patches appear in well-ripened honey only, but it has the faulty appearance which the customer questions and dislikes, and therefore the 'patchiness' should be avoided. When extracting, the cage of the extractor should not revolve faster than is necessary to remove the honey from the comb; any excessive speed causes the honey to contain minute air-bubbles, the presence of which should be avoided in liquid honey.

When bottling honey, be careful to let the stream fall in the centre of the bottle only, otherwise a white patch or streak will always show after granulation down that side of the bottle which the honey happened to touch when filling. The bottle should also be placed well up near the tap when filling, to avoid causing unnecessary air-bubbles.

This will reduce to a minimum the quantity of dry white honey usually found at the top of jars when their contents are granulated. But even with the greatest care while extracting, filling the cans, and bottling, well-ripened honey cannot be prevented from being subjected to a certain amount of friction, and therefore its upper surface will assume, more or less, a dry, white appearance when granulated.—PETER BOIS, *Jersey.*

[The above communication contains some interesting as well as useful information. At the same time, it must not be forgotten that the simple expedient of melting granulated honey in warm water, as given in reply referred to, will effectually accomplish the object aimed at by our querist. It is well known among experienced bee-keepers that stirring liquid honey in bulk will cause it to granulate with a finer grain, and lighter in colour than if not so dealt with, and also that honey which has been re-liquefied after granulation is finer in grain than before. It is a moot point, therefore, which is the best plan to follow in order to attain the desired end. Some American authorities say that warming causes no deterioration in flavour. We think that, unless very carefully done, it does in some measure lessen the characteristic flavour—and certainly the delicate aroma—of fine honey. It, however, removes the white, dry portion found on the top in jars of granulated honey, which our correspondent justly complains of, as well as the 'patchiness' in colour. On the other hand, our correspondent maintains, in effect at least, that prevention is better than cure, and as it cannot be denied that care in extracting, bottling off, and in all handling of the product which lessens 'friction,' tends to accomplish what the writer claims, his plan is well worth consideration.—EDS.]

PREVENTING SWARMING BY DIVIDING COLONIES.

[961.] Will you tell me whether the following plan is likely *always* to succeed? It succeeded so well last summer with one hive that I should like to try it on a larger scale this season. I may mention that I have to go to London early every morning; during my absence a swarm may issue, and before I return in the evening it may be lost, as there is no one at home who can hive it. I had a large double hive, capable of holding some eighteen or twenty frames, with two entrances facing north and south; but the northern one was closed with a block. It was occupied by one colony only, on ten frames in the middle portion of the hive, the spaces at both ends being filled up with broad dummies. About the end of May I divided the colony into two by merely putting a quarter-inch board between the fifth and sixth frames, taking out the dummies, putting in their places frames with foundation, opening the closed entrance, and turning the hive so that the entrances faced east and west. I put on a number of sections without any excluder zinc and no division between the sections. On examining, a few weeks afterwards, there were two queens, with plenty of brood, and the bees worked most amicably in the sections, although they were common to both colonies. As to results, there was no swarming, a good increase of bees from *two*

queens, and a very fair harvest of honey.—T. H. C., *New Malden.*

[There is no doubt the plan followed would most effectually stop swarming, and since it was successful in the case under notice, it is not easy to say why it should not 'always succeed.' That it would not we are, however, convinced, and hence we advise you only to try it to a limited extent—say, with two or three stocks. We should quite expect, in many cases—especially if the weather became cool at the time—to find the bees of the queenless portion of the divided colony deserting the brood, and leaving it to perish, while they passed over to the combs where the queen was. Doubtless your being able to *face* their entrances to different points of the compass from that they originally occupied helped to make the division of the two lots of bees more complete than it otherwise would have been, but the plan proposed is so beset with risks that we cannot recommend it for general adoption. We shall, however, be very pleased to report results, if you will kindly forward them for publication.—EDS.]

SWEET SPIRITS OF NITRE IN HONEY RECIPES.

[962.] Sweet spirits of nitre form an ingredient in one of the recipes given in the article on 'How to Create a Honey Market,' in a recent number. I have been told by a medical man that the action of this drug upon the kidneys is extremely injurious; it also opens the pores of the skin, and leaves the person using it liable to take cold. It is a valuable remedy, but should be used with great care.

I have thought it best to mention this in your columns, so that care may be exercised. You can easily ascertain whether my information is correct, and if so, modify or withdraw that recipe, if desirable.—W. DRINKALL, *Lancaster, February 16th*, 1892.

[We will direct the attention of the writer of the article referred to to your word of caution.—EDS.]

FROM THE SOUTH OF FRANCE.

[963.] I always read the *Journal* with a good deal of interest, and always find in it sound advice, which I try to turn to good account. In our district, which is a poor one for honey, the harvest for 1891 was not a bad one. My thirty hives, of which twenty are of straw, seven on the Berlepsch system, two Layens, and one Dadant, gave me 350 kilos. of extracted honey. Foul brood is still unknown here, but I am afraid it will be brought here some day with foreign queens. In my apiary I am quite satisfied with the good old black race, but sooner or later I am sure to be invaded by the foreign races, such as the Italian and Carniolan. In the meantime I hope that all my brother bee-keepers in England may have streams of honey during the year 1892.—FOURNIER, *Curé at Injoux, South of France, February 20th*, 1892.

'WEEPING' SECTIONS—WIRING FRAMES.

[964.] Allow me to thank 'X-Tractor' for his kind reply to my query on page 76, containing as it does so many useful hints for the coming spring. His description of 'The Hut' is so clear, that when we reach his next article we shall be able to picture the writer and his surroundings.

I have noticed several references to 'weeping' sections, and have seen many such sections displayed in shop windows, and I think a great portion of them have been made to weep by placing them upside down. As, of course, some shopkeepers do not know which is the right side to keep up of comb honey in sections, it would help very much if producers would supply wrappers the same size as sections, and in the same form, one side to be printed something after this style:—

'PURE COMB HONEY:
Please keep this side up,'

and supplied ready gummed. They would save many 'tears,' and would look far more clean than some sections I have seen presented to public view.

My bees (five stocks) have wintered well so far. I tried shallow frames for extracting last season, and was much pleased with the result. It certainly adds to the pleasure as well as to the profit to make your own appliances, and I find the more simply these are made the greater comfort there is in manipulating the bees. I have utilised a perforated 'quarry' such as they use over the malt-kiln, and put in a zinc pan a little deeper than itself. It makes a capital drinking-fountain; the bees can drink without any fear of drowning, as the holes in the quarry are only about three-quarters of an inch deep.

I should like to see a description of the best way to wire frames, and, as many fresh hands join the craft every year, it would be welcomed by many more besides.—C. H. DYCHE.

[In wiring frames, fine tinned wire (No. 30) is used. Among many methods the following is one of the simplest and most effective:—Five three-eighths of an inch tacks are driven, not quite close home, along the front side of top bar, as shown in the cut (Fig. 1), five holes being bored through

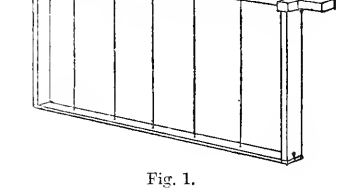


Fig. 1.

the exact centre of bottom rail, opposite the tacks above. A turn or two of the wire is passed round the first tack on the left, and the tack being driven home secures it. The wire is then passed through the saw-cut, then down through the hole in bottom

bar, next passing underneath and up through the second hole, as shown in cut (Fig. 1), and finally secured round a tack driven in the side bar on the right. The frame thus wired is ready for the foundation, and to assist in fixing this a block (Fig. 2) is necessary. This is a piece of board

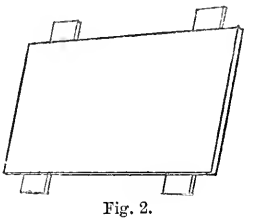


Fig. 2.

rather less than half an inch thick, and small enough to fit easily within a standard frame. On one side of the board are nailed two strips of wood ten inches long, so that the top and bottom rails of the frame will rest on these strips, while the board fills up the frame and allows the foundation to lie on it in proper position for wiring. We are supposing the frame to have its top bar cut through between the side bars. When inserting the foundation, a small screw-driver is inserted in the saw-cut and turned half round, thus parting the frame to allow of the sheet of foundation being slipped in *behind* the wires, which lie upon the front surface of the foundation when placed on the block. A 'spur embedder' (Fig. 3) is used to

Fig. 3.

embed the wires into the foundation, the wheel being heated sufficiently to melt the wax as it passes over the wire, and force the latter into the foundation. If the top bar-frame has no saw-cut, holes are bored through it, as in bottom rail, and the wires passed through them.—Eds.]

A MARKET FOR HONEY.

[965.] Mr. R. Few (Hunts) wrote in *Bee Journal* (944, p. 78) complaining of no market for honey at 6*d*. per pound. Had he given better information how to find him, I have no doubt his stock would soon be cleared out. You will see by the enclosed envelope that I can't find him, my letter to him being returned through the post-office as insufficiently addressed. Can you please assist me?—F. Walters, *Derby*.

[We have forwarded Mr. Few's full address to our correspondent.—Eds.]

WINTERING BEES.

[966.] Since taking the *British Bee Journal* I have read with interest the 'Hints' given by you and also by other bee-keepers in respect to wintering bees. Some say one thing is best, some another, but it all helps on those of us that are fresh in the field. I have been a bee-keeper about two years, and it may be said that I don't know much; in fact, there is so often something fresh coming up that I wish we could have one of the experts or lecturers round this way to teach us a little. We need it much. A person near here, one of the old sort, who keeps his bees in skeps, has done so for years. I cannot get him into the new way so far. He had a lot of swarms last year, but no honey. He asked me to drive some bees for him in order to get the honey, but being late in the year (November) I could not see my way clear to do him much good. Since then he has sulphured six skeps of poor bees and from the lot he got less than twenty pounds of honey. Why, they would have been worth ten shillings a skep if left alone. What a gain!

I bought a skep of bees from the same man last spring, and transferred them into a bar-frame hive about April. From these I had about forty pounds of honey. I have not lost any stocks up to now. A neighbour asked me to look at his bees the other day, though he had engaged a man who professed to know how to look after them at so much per year. He had not been to see the bees all the winter. I found the entrance to one hive closed up, and bees near entrance all dead; a few up in frames were still alive, but they are since dead, as they had no food. The next (a nice lot of bees) also had almost no food, and the section crate had been left on. There was no quilt on the next, but the bees were a very fair lot, partly covered with board. They had very little honey last year; it was a wonder they held out through the twenty-four degrees of frost we had here. I think the warmer we keep bees the better. We had a good flight-day here on the 25th.—A Lover of Bees, *Halstead, Essex*.

BEE-WAYS.

[967.] I think I may improve on 'Alpha's contrivance (935, p. 67). Last autumn I had a piece of bamboo, about 1½-inch diameter, which had been picked up on the beach. I cut off seven or eight inches, split it into four, ran a gouge along the inside, and in little more time than it takes to write this I had four excellent bee-passages.—C. R. S., *South Cornwall*.

CORK DUST FOR MAKING ROOFS AND HIVES WATERTIGHT.

[968.] To make roofs watertight, give a good coat of thick paint, and, while the latter is wet, sprinkle on cork dust, from which the dust-like portion has been removed, leaving only the coarser grains. Let it dry for a few days, till all becomes set and hard; then give two or three coats of thin paint of any suitable colour. Hive bodies as well as roofs may be thus treated, and have a very pleasing effect, besides keeping the hives cool in summer and warm in winter. I have used cork dust in this way on my hives for years now, and they never take in any dampness—though only made of three-quarter stuff—and the bees always winter well in them. —J. G. Brown, *Stockton-on-Tees*.

SELLING HONEY.

[969.] I told you in the autumn how the cane sugar acts on my bees. They have come out splendidly and strong. I am feeding now with candy made from a receipe of *B. B. J.*, January 29th, 1891. Not a case of dysentery in my apiary of twenty-eight stocks. I am rather sorry to see the price has gone up, as a good many may go back to beet-sugar feeding again.

I notice in the *B. B. J.* (944, p. 78), the case of a correspondent having a difficulty in selling his honey. Well, I have never had any at all. I will give him a little advice. What I do is to put it in my front-room window, with a large card, 'Honey for Sale,' and when the public begin to see it they ask a few questions, and come in and ask the price. I have sold honey to go to Paris, the north of England—indeed, all about the country. The great thing nowadays is to bring any article you have for sale before the public notice, give a genuine article, and then you will always get trade. I have sold nearly two hundredweight since last July; sold the last two sections to-day, and have realised 8*d.* per pound all round; I have about fourteen pounds of 'run' left. They say it is an ill wind that blows nobody good; the influenza has helped to take a lot of honey this winter in this neighbourhood, and if Mr. Few will drive over and see me, I will try and help him out of his difficulty. I think he lives somewhere close to me, as our county is so small that you can drive through it in two hours.

Thanks, Mr. Grimshaw, for your advice in *Record—re* influenza—about using eucalyptus oil. We have been using it ever since we saw the notice, and I have only had a mild attack, nothing to prevent me going about my business in the usual way, and I have found out since I saw your letter, that a few green branches of the eucalyptus-tree hung up in a room are a great preventive.—R. BROWN, *Somersham, Hunts.*

Queries and Replies.

[494.] *Bees casting out Candy.*—1. Would you be kind enough to explain why my bees are carrying out the candy which was given to them last week over frames? The alighting-boards are strewn with sugar. A running brook lies no more than fifty yards from the hives, so it cannot be on account of scarcity of water. I may say the candy is made as follows:—Castor sugar, six pounds; honey (warm), one pound; well kneaded into a soft candy, and put in one-pound starch boxes. 2. Indications were seen at some of the hives of chilled-brood, larvæ being brought out after the snow had cleared off. Moisture also runs from entrances; is this too early to be a good sign? 3. I am trying my hand at making shallow boxes for nadiring, and so far am very successful, but am at a loss to know if the bees should be allowed to go directly into nadir containing shallow frames—am placing excluder zinc over top to exclude queen—upon entering the hive, or should they go up between side of box and support for frames? Am making nadirs so as to be able to transfer over frames.—PARAGON, *Leicester.*

REPLY.—1. Bees only cast out the hard granules of unmelted sugar. If fine 'icing sugar' is used along with liquid honey to make what is known as 'Goode' candy, there should be no granulated portion to carry out. 2. If only an odd larva is seen, there is nothing to cause alarm. 3. You should obtain full particulars of the system of working Mr. Howard's 'Paragon' hive in order to understand what is required when working out the plan mentioned.

[495.] *Drones flying in February.*—Seeing drone brood thrown out on Sunday, February 21st, and drones flying on the 22nd, I shall be very glad if you will kindly give me an explanation as to the cause.—BEE-KEEPER'S WIFE, *Malvern.*

REPLY.—To see drones flying and drone brood cast out in February is abnormal, and indicates something wrong with the queen. She is either aged, and consequently has become a drone-breeder, or else by some mischance the fertile queen of last season has been superseded by a young one hatched too late in the year for fertilisation. Examine the combs on the first fine day, and see if any, or very little, worker brood is hatching, also if drones are being raised in worker cells. In either case the queen will be worthless, and no good can come of the stock in its present condition.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. STRACHAN (Ballindalloch).—*Candy-making.*—It is not easy to distinguish between the candy and the sample of sugar sent, the two having become thoroughly mixed by being folded tightly together in parcel. The candy is, however, altogether too soft, and besides being insufficiently boiled, it has not been kept stirred, after removal from the fire, until it began to granulate. If used so, it would be likely to melt, and fall down between the combs.

CHIPS AND SHAVINGS.—The excluder zinc sent is of an out-of-date pattern, but will no doubt answer the purpose. The modern pattern has the ends of perforations round instead of square.

*** *Several articles are held over till next week.*

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

OUR PROMINENT BEE-KEEPERS.

No. 36.—WILLIAM WOODLEY.

Among our prominent bee-keepers probably no one will be better known to readers of this journal as a successful honey-producer than the gentleman whose portrait accompanies this sketch. Few important honey shows have been held—in England, at least—for some years past where the name of Wm. Woodley does not appear as an exhibitor, and also as a prominent prize-winner. The reason for this is not far to seek. Located in a district the flora of which yields honey of very excellent quality, this natural advantage, along with his admirable style of preparing his produce for staging, makes him a formidable antagonist on the show-table, and the uniform excellence of his exhibits usually places him in the front rank of winners. Speaking entirely in the interest of bee-keepers, we trust that he will continue 'showing,' for his exhibits have an educational value, as proving how much of success depends on care and neatness in preparing honey for exhibition.

WILLIAM WOODLEY.

Mr. Woodley was born at Oxford on March 9th, 1846, and six years later he was, on the death of his mother, placed in the care of a great-aunt on the maternal side. This good lady lived at Stanmore, a small hamlet of Beedon, near Newbury, Berks, and was one of several bee-keepers of the old school who kept bees in skeps in the few surrounding gardens. When the boy William was considered capable of walking two miles to the village school, he was duly installed as a scholar therein; and upon reaching the age of seven, his services were requisitioned during the six or seven weeks of each succeeding swarming season for the purpose of what the old lady called 'mindin' the bees.' He may thus be truly said to have begun bee-keeping early in life. Not under the most favourable auspices, it must be confessed, for the tasks imposed upon the boy were not of a nature to attract him towards the pursuit. His careful and well-meaning old guardian insisted on the importance of 'William' keeping himself continually employed, either physically or mentally; and so weeding the garden in the sun was only varied by reading over and over again the Old Testament and the Gospels in the shade. The tedious monotony of the task was only relieved when a swarm or several swarms issued; then, to the boy's delight, came the banging of tin pots, pans, and all the various means of creating a noise familiar to old-fashioned village bee-life; and when several bee-owners were 'tanging' at the same moment we may imagine the pleasurable excitement aroused by the din! No doubt his experiences among bees at this time have stood him in good stead since, for we believe that none make better bee-keepers than those who have gained their first knowledge of the pursuit in their

boyhood. Many are the exploits Mr. Woodley can detail of bee-doings at this period of his life; how he assisted the chief bee-man of the place—who, like the great Huber, was blind—in recovering swarms from tall trees; the boy mounting the trees, and being *'shown'* how to manage by the directions called out from below by the blind old bee-keeper.

In 1859 Mr. Woodley was apprenticed to a firm of grocers at Chieveley, Berks, his evenings being devoted to educational self-improvement, and seven years later he left the firm and removed to another employment at Slough, Bucks. While here he began to take an interest in photography; finally, being naturally of a mechanical turn of mind, he displayed a special fondness for handling watches and clocks. This proving a more congenial occupation than the grocery business, and having gained a fair insight into the subject, he returned to Beedon, and started business for himself in the watch and clock trade. The venture brought about a renewal of old acquaintanceships, and the old pursuit of bee-keeping was resumed in a small way, this time on his own account, and with straw skeps, of course. It was, however, not till 1878 that he adopted the frame hive, and three years later he took first prize at the exhibition at South Kensington, his fine glass super becoming the talk of the neighbourhood at the time, bee-keepers from adjoining villages coming to see and admire it. Since that date the growth of Mr. Woodley's apiaries has been steady and constant, till the number of stocks in them now usually reach from 140 to 150. His successes as an exhibitor are recorded in our pages for the last ten years, during which time he has probably never exhibited at a show without taking prizes, nearly always firsts. We should think that the height of his ambition ought to have heen attained when a sample of his success in the art of bee-keeping was presented by the B.B.K.A. to Her Majesty the Queen at Windsor, in 1889, in the shape of a large and handsome design in honey-comb. He is a well-known and valued contributor to this journal, 'Notes by the Way' from his pen appearing at frequent and regular intervals.

Mr. Woodley married in 1872, and was fortunate in obtaining a partner whose tastes accord with his own in so far as bee-matters go.

Mrs. Woodley, as we learn, is justly entitled to a fair share of the credit attached to whatever success has been attained in the apiaries at Newbury and Stanmore, and none more readily acknowledge this fact than her husband, who writes concerning her:—

'She is my only help with both apiaries, except a woman who watches for swarms at our Stanmore apiary during the season. My wife folds and waxes all the sections, and places them in the crates ready for me to put them on the hives; when I have taken them off she cleans, glazes, and prepares them ready for market, also helps to pack swarms sold during the swarming season. She also makes the bee-candy, and can hive the swarms as well as I can myself if they settle in anything like a reasonable place.'

Between them they have made bee-keeping a commercial success, and have found a solution for two, at least, of the difficulties complained of by not a few of the craft, and it is this—no matter how large is the honey harvest he has a ready market for it, and usually knows where to place the whole stock of surplus honey before the season begins. The second point is, he can pack honey, either comb or extracted, to travel any distance by road or rail without a single breakage. This we have had repeated opportunities of personally attesting at various shows.

Like many other successful honey producers, he relies entirely on the old native black bee, and believes in no other; and, while endeavouring to improve his strain, no foreign blood is allowed to mix with it. He has also been so far successful in keeping foul brood at a distance.

Mr. Woodley is highly esteemed among his poorer neighbours, and for now nearly twenty-five years has been their adviser, will-maker, and trusted counsellor. His opinion is also generally sought on matters of importance occurring in his neighbourhood, and he has the management of a flourishing benefit society. We trust that Mr. and Mrs. Woodley may long be spared to continue the good work they are doing in many ways which the limits of this short sketch preclude us from detailing.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of February, 1892, was 1511*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Obituary.

Ivar S. Young.

We regret to have to announce the death of Mr. Ivar S. Young, of Christiania, Norway, who was a most successful and ardent bee-keeper. Mr. Young, who was fifty-four years of age, was one of the leading bee-keepers in Norway, and took a prominent and active part in the formation of the Norwegian Bee-keepers' Association, of which, in December, 1884, he became a life member. The Association's journal, *Tidskrift for Biskjötsel*, was started in January, 1885, and from March, 1887, to December, 1889, it was edited by Mr. I. S. Young in conjunction with Mr. Oscar Nielsen. In 1887 Mr. Young published a small handbook on bee-keeping, and it was in that year that we had the pleasure of meeting him in America and spending some time in his company. He was sent to America by his Government to study the systems of bee-keeping carried out in that country. He was very fond of England and the English, and had been during his youth in Scotland, where he had perfected himself in the English language. We hope before long to be able to give a short sketch of his life, with portrait.

Count C. Bianconcini.

With Italy we have also to deplore the loss by death of Count Charles Bianconcini, of Bologna, whose name is well known the world over as one of the leading queen-breeders of Italy. Count Bianconcini was brought up as an engineer, and served his country in the artillery, from which he retired with the rank of captain. He was not only passionately fond of bee-keeping, but was also a thorough gentleman, and his strict integrity won for him the esteem of all who knew him or had any business transactions with him. In his business dealings he was most honourable and obliging, and those who have had dealings with him have always spoken in the highest praise of his queens. Foul brood does not exist in the district where Count Bianconcini resided, therefore there was no fear of importing this disease with queens sent from his apiary. He was also equally well known as an agriculturist. Our relations with him have been of the pleasantest, and the Editor of the *Revue Internationale*, writing about him, says that after fifteen years of the most agreeable intercourse he can affirm that not one of his immense circle of customers has had to complain about him. His loss will be sorely felt in Italy, where his reputation was equally as good as it was abroad.

Abbé Giotto Ulivi.

We have also to record the death, from influenza, of the Abbé Giotto Ulivi, of Campi-Bizencio, in Italy. Unfortunately for bee-keeping, although an advanced and thoroughly practical and scientific bee-keeper, the good that he might have done was completely counteracted by his violence of language and intolerance of those who differed from him. A strong anti-parthenogenesist, he did not hesitate to abuse all those who upheld the Dzierzon theory, and, forgetting that there are two sides to every question, he put down as charlatans all who differed from him, and even the great Huber was called by him 'a buffoon!' He was the inventor of what was known as the Giotto hive and principle, which was tried here about fifteen years ago.

HUBER'S LETTERS.

Eighth and concluding Letter.

Sir,—Our dear Count informed me two days ago of your loss and great sorrow. You will believe that I heartily sympathise with you, and that your trouble has caused many tears to your new friend, as well as to those who have had the good fortune of knowing you for a much longer time. I was sorely troubled at being so long without news of you, but that just received only too well explains the reason for your silence.

I hope that your correspondence is only interrupted for the time being, and that you will soon be able to resume your favourite occupations, and that they will bring you, by God's help and in due time, some consolation for your sorrow.

M. de Flumet told me that your bees had given you some anxiety. Have you lost any this winter, as some of my acquaintances have done?

Mine would have suffered the same fate, if the hives which I use had not enabled me to know their condition, and to see that they had not honey enough to last the winter. The mildness of the one we have just passed through has increased their consumption of stores, and the severity of the spring did not permit them, until the 22nd of April, to bring in any provisions.

Directly I saw the wants of my hives, I adapted little funnels to them, by which I could pour in honey without disturbing them. We gave a good spoonful every other day to every, hive, and it is especially when the sun shines and entices the bees out, that this help seems to me to be the most necessary. But, to what can you attribute their want at the end of such a season, which seemed one of the most favourable, as our fields were always covered with flowers till the end of autumn? As you know, plums were very abundant, and great numbers were dried in our neighbourhood; the drying trays were always covered with bees, and this lasted for some time. Had they been deceived by this allurement in order to neglect a more useful and lasting harvest for this passing recreation? I spoke to some old peasants about it, and they told me that those years when plums were very abundant were fatal to bees. I should never have believed it, but for this winter's experience.

Swarms were scarce and late in our cantons; in Vaud the same thing happened. The drought from which we have suffered for two months has told against the bees, and especially the last swarms that I got in the last week of June. Having consumed all their honey in making combs, they would have died of hunger or dwindled, had I not come to their assistance.

I have some glass hives that I stocked this year, and, amongst others, two hexagonal in shape, which can only be supered according to Palteau's method. They have only been inhabited since the end of June. The construction of comb, which was interrupted much too soon by the drought, was not resumed by the bees, whom I had gorged with honey every now and then. They had not placed a single drop of this honey in their combs, nor made a single cell with it. To force them to turn this honey into wax, the combs must be separated the one from the other, and it is only the leaf hives that enable one to do this. Their only drawback is, that they require considerable ability for managing them and precision in their construction. I wished to make them more easily managed, but, unhappily, I found by experience that, instead of simplifying them, their perfecting required making them more complicated.

My little invention would succeed splendidly

in your hands; one day I will give you the details, if you wish. I have now only to ask you, sir, not to forget me, and to beg of you to continue your interest in your devoted—F. HUBER. —*August*, 1807.

'GOLDEN CARNIOLAN QUEENS.'

In our issue for September 17, 1891 (p. 419), we printed a short note from Mr. L. A. Lowmaster, of Ohio, U.S.A., in which reference is made to Mr. Henry Alley, as 'the man that crossed Carniolan queens with Italian drones, and called them pure Carniolans, and tried to humbug bee-keepers with them.' The publication of this letter greatly incensed Mr. Alley, and in consequence he wrote the rejoinder which appears on p. 523 of *B. J.* for November 19th following. This extraordinary effusion compelled us to furnish a few particulars tending to justify the position which, in the interests of bee-keepers, we felt it incumbent on us to take, both with regard to Mr. Alley and the various bees in which he traded; and in a footnote to his letter, and a subsequent article entitled 'Humbug in the Queen Trade,' we dealt with the subject. It need hardly be said that our comments upon Mr. Alley's methods of doing business have given much offence to that gentleman, and in his paper, the *Apiculturist*, he has, in language distinguished rather by force than politeness, attempted to justify his own action, and at the same time cast discredit upon those who have ventured to question his *bona fides*, Mr. Lowmaster being specially selected for attack.

In the *Canadian Bee Journal* for February 15th, the latter gentleman replies to these attacks of Mr. Alley in terms which will no doubt appear strangely outspoken and vigorous to readers of journals wherein—to put it mildly—a greater measure of restraint is used. The article is too long for insertion here in full; we therefore cull from it a few extracts bearing specially upon the subject of Mr. Alley's 'Golden Carniolan Queens.' Mr. Lowmaster writes:—

'In the *American Apiculturist* for November, 1891, we read on p. 150 an article in which Alley says, "I know of but few swindlers now in the queen business, but if you read this copy of the *Apiculturist* carefully, you will have no trouble in locating one of them." Yes, if the bee-keepers of this country would read Alley's monthly circulars, they would have no trouble in locating one of them, and before I am through with this article we will see who the swindler is. Then on p. 153 of same circular, he says:—"This honest man (?) Lowmaster is the queen-dealer who sent me two common black queens for imported Carniolan mothers. About half of the worker progeny of those queens showed yellow bands, and both queens were inferior. If any readers of the *Apiculturist* have an idea that this charge is made for this occasion, I call upon Lowmaster to publish my letters to him in reference to this matter." As I have kept all this man, Alley's, letters and postal cards, I am fully prepared for the occasion, and, Mr. Editor, by your kind permission, we will try and accommodate him.'

Then follows a very ample and complete verification, as we think, of the strictures we made in the articles already referred to, Mr. Lowmaster adopting the same course we did, viz., that of convicting Mr. Alley by his own written letters and published statements, about which there could be no dispute. After tracing the origin of the 'Golden Carniolans,' he proceeds as follows:—

'Reader, here you see that this wonderful Golden Carniolan strain has but very little Carniolan blood in them; they are ¾ Italians and ¼ Carniolan according to his own testimony. E. L. Pratt also writes me, September, 12th, 1890, and says, "We are developing a strain of golden Carniolans which are very fine, but we cannot claim them strictly pure." Now we have the testimony of both the originators of the Golden Carniolan bees; one tells us how they were originated, and the other one says they are not "strictly pure." Have I lied when I say that Alley is the man that crosses Carniolans (queens) with Italians (drones), and sells that cross for pure golden Carniolans? Under date of January 19th, 1891, Alley writes and says, "Benton never sent a pure Carniolan queen to this country; all show more or less yellow bees."'

The article continues by Mr. Lowmaster quoting letters written to himself by queen-breeders in Carniola, so full of interest to those who are concerned about these so-called pure yellow Carniolans, that we print the conclusion in full as follows:—

'What inconsistency! The very idea of Alley stating that Benton never sent a pure Carniolan queen to this country, because the "bees showed more or less yellow," and then have the cheek to tell bee-keepers that he has them, and they are all yellow; it is ridiculous. Mr. Pauly, a Carniolan queen-breeder, a native of Western Austria, writes me in August 1891:—"If Alley says that there is a man in Carniola who represents his bees as Golden Carniolans, he lies! There is no such thing in Carniola. Everybody knows that pure genuine yellow Carniolan bees do not exist. I give you my word of honour that such a breeder is not in existence in Carniola, and nobody here knows anything of Golden Carniolan bees. Please tell Mr. Alley, that if he is making such representations regarding his Golden Carniolan bees, he is a grand swindler." Mr. Pauly further says that "It is often the case that bees in Krain (Carniola) have yellow rings, but only on the south side of Carniola, toward Italy, and they are a mixed race of Carniolans and Italians. For the present I give you only such information as concerns genuine pure Carniolan bees, that have been in existence since unknown times. They are a grey, hairy bee, while the other bees brought into the market

in Carniola are a mixed race of Italians and Carniolans. The pure Carniolan bee has positively nothing yellow about it." Mr. Schusterschitz writes me and says: — "The original Carniolan bee is grey with a light grey ring which can easily be noticed on the young bees. The Germans claim that Carniolan bees are an offspring of the black bees, but I will not treat of this as the proof is missing; but if this should have been the case, then it must have been several hundred years ago, for Carniolan bees then existed in the same condition as now. I also can say that the Carniolan bees had to suffer from the Italians bees for goodness knows how long." Mr. Dragon, a noted Carniolan queen-breeder, writes me in 1891 and says:— "Why some of our bees have yellow rings arises from the fact that some of the settlers in the far past have brought those bees with them. Centuries ago, when some Italians settled here, they brought the yellow bees along, but only a small mixture occurred, as our Alpine valleys are mostly populated with native Carniolans, where no yellow bees existed. When Mr. Alley says that the Krainer bees came from a yellow race of bees, he is telling what is incorrect. The original Carniolans are grey, as I have told you before."

'The above is proof enough to convince any one that the original Carniolans are grey, and not yellow, and that the bees with yellow rings are a mixture of Italians and Carniolans. It also proves that this so-called Pure Golden Carniolans are nothing by hybrids. Some will say, where can we get any pure Carniolan bees then? I will say in Upper Carniola, in the valleys of the Alpine mountains, there they exist in their purity. In Lower Carniola and along the boundary line of Carniola and Italy, there the bees are a mixture of Italians and Carniolans, and are not pure. Now then, readers, who is the liar and swindler?'

Our readers will be enabled to gather from the above whether we overstated the case in our article on 'Humbug in the Queen Trade.'

LECTURES ON BEE-KEEPING AT THE YORKSHIRE COLLEGE.

The first of a series of lectures on bee-keeping promoted by the West Riding County Council was given on Friday, March 11th, at the Yorkshire College, by Mr. R. A. H. Grimshaw, of Horsforth, the Secretary of the Yorkshire Bee-keepers' Association. It is intended to give the lectures fortnightly, on the second and last Fridays in each month. During the summer the gatherings will take place in the lecturer's bee-garden, when the theoretical teaching will be carried out in practice as far as possible. Mr. Grimshaw on this occasion described the operations of a prosperous colony of bees. He explained that it was nectar, and not honey, which was gathered from the plant, but that the nectar was converted into honey by the bee. Having fully described the nature of the different kinds of flower and fruit blossoms, the lecturer showed that the bee, by visiting flowers of the same species, fertilised the seeds with pollen brought from another plant, and produced finer and better fruit and more satisfactory plants than would otherwise be the case. In support of this, he cited some of Darwin's experiments. Mr. Grimshaw remarked on the lack of statistics in this country with reference to the number of bee-keepers and hives. In Europe and America there were proper statistics compiled, ranging from Greece, with its 30,000 hives, giving a yield of 3,000,000 pounds of honey per annum, to the United States, with its 2,800,000 hives, yielding 62,000,000 pounds of honey. Europe and the United States together produced the vast amount of 81,696 tons of honey per annum. It was, he said, desirable that the practice of bee-keeping should be spread in this country, because, at the present time, we are paying large sums of money for foreign honey. Last year honey to the value of 38,247*l.* was imported, and the quantity landed at our ports during last January alone was worth 13,000*l.*

THE 'MARSHALL' FUND.

	£	s.	d.
Donations already acknowledged ..	14	7	6
Tom Sells	0	5	0
A Young Bee-keeper (Bournemouth)	0	5	0
G. W. (Eynsford)	0	5	0
Harold Adcock	0	2	6

We propose to close the Fund next week.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

INTERNATIONAL FRUIT AND HONEY SHOW.

[970.] An international fruit and honey show is to be held in London, on the Thames Embankment, in October of this year. At the request of the Provisional Committee, of which Sir James Whitehead is the chairman, I have prepared a schedule of prizes for the honey

department of this exhibition. This schedule, I am informed by Mr. Dean, the Secretary, has been approved and adopted by the Schedules Sub-Committee.

The time of year at which the show is to be held will enable bee-keepers in all parts of the United Kingdom to compete in this international exhibition; the honey from the heather, even in the far north of Scotland, will by that time be secured, and for which prizes are offered.

The schedule is a liberal one. More than 50*l.* are offered in money prizes in the various classes, and it has been framed in such a manner as I trust will meet with general approval.

A grand opportunity will be thus afforded to the bee-keepers of the United Kingdom which they have not before had of showing to the world that the honey of Great Britain and Ireland is not to be surpassed by that produced in any other part of the globe. There is no doubt that most of our colonies and all honey-producing countries will be represented, and it is to be hoped that bee-keepers from all parts of the United Kingdom will take part in the competition.

The schedule includes several classes for cottagers residing in the United Kingdom. Secretaries of County and other Bee-keepers' Associations should advise cottagers in their respective districts of this show, and how they should compete, and as to the best means they should take for the safe conveyance of honey or wax to the exhibition. The B.B.K.A. was established 'for the encouragement, improvement, and advancement of bee-culture in the United Kingdom, particularly *as a means of bettering the condition of cottagers and the agricultural labouring classes.*' Here, then, is an opportunity afforded to the different affiliated Associations of showing how far they have been successful in reaching the cottagers, and teaching them 'modern bee-keeping.' Every effort, therefore, should be made, so as to ensure a good number of exhibits in these cottagers' classes.

The schedule of prizes will no doubt be advertised in due time in the bee-papers. Prizes are offered to all comers from all parts of the world, in classes for collections of comb and extracted of not less than 50 pounds, or more than 150 pounds, staged on a given space, for which prizes of 5*l.*, 3*l.*, and 2*l.* will be offered; also for twenty-four one-pound sections, for twelve one-pound sections, for twelve two-pound sections, for twenty-four pounds of heather honey in sections of any size, for twenty-four one-pound jars of extracted honey, for twelve one-pound jars ditto, for the best design in comb honey, for six pounds of wax, and for two pounds of wax. Cottagers' classes for six one-pound sections and for three one-pound sections, for six one-pound jars of extracted and for three one-pound ditto, and for two pounds of bees-wax.

This ought to be the best exhibition of honey and wax that has ever been held, and will give an opportunity to Mr. John D. McNally, or any other ambitious bee-keeper desirous of trying to secure championship not of Great Britain only, but of the whole world.—JOHN M. HOOKER, 9 *Beaufort Gardens, Lewisham, S.E.*

NOTES BY THE WAY.

[971.] We have now had a fortnight of very severe weather, and our bees have been confined to the hives all the time; winds veering east and north-east constantly, cold and penetrating to the very marrow of one's bones, with occasional snowstorms and blizzards, our weather-wiseacres say they never remembered it so cold in March before. The piercing winds and sharp frosts have killed nearly every wallflower in this part, so that our bees will not have these to forage on; and the snowdrops are seared and brown, except those in sheltered nooks. This afternoon the sun is shining brightly, the wind has changed to west, and a few bees are disporting themselves in the sunshine.

Bee-keepers will do well to see to the state of the stores after this continued cold snap, as soon as the weather is suitable; and those living in fruit districts, where there is a chance of an early honey-flow, ought to begin gentle stimulation, so that their stocks may be ready to take advantage of the opportunity when it occurs.

Now is the time to place orders for the forthcoming season. Don't wait till the goods are actually wanted for use, or disappointment will surely be your lot, and possibly loss of temper and the best part of the honey harvest; as a week or ten days' delay may start colonies on the swarming rampage, and demoralise the colonies for good steady work for the season.

Artificial pollen will be very acceptable to the bees for a week or two, until natural pollen can be gathered in sufficient quantities. Pea flour and ordinary wheaten flour in equal quantities, sprinkled on some clean, dry shavings in an old skep or a box, and placed in a sunny spot, with a board or hood of some kind to keep the rain from falling on the dusty shavings. Of course, the quantity required will depend on the extent of the apiary—one skep of shavings, say, for ten hives; or the flour may be mixed with chaff, and placed so that the sun can shine on it, or two or three clean empty combs may be filled with pollen and placed in an empty hive, and the bees will collect it as required. It is not advisable to give large quantities at a time; better give it fresh and on such days as bees are flying. Where only a few hives are kept, and there is an abundance of flowers, no artificial pollen is required, the bees having plenty of the natural article.

Dr. Tinker's capital article (958) on queen-fertilisation in full colonies clears up apparent discrepancies and erroneous ideas regarding his (Dr. Tinker's) and Mr. Doolittle's systems. It appears necessary to use two excluders, with a space between them, to ensure success with two entrances opening in opposite or different

directions, so that, to all intents, the colony is divided into two colonies, though the workers may find their way into the upper compartment through two pieces of excluder zinc; yet I fear this method will curtail the ingathering of the honey harvest considerably, and as soon as the young queen begins to lay the hive must be opened up, and the old queen removed or confined in a 'Dayton' cage on two or three frames. This system is advocated to prevent swarming and rear queens in full colonies, so that there is no break in the egg-laying; and in countries where they have a long-continued honey-flow, or perhaps two or three good honey-flows in succession, with short intervals between, it may succeed; but in this country, where our harvest only lasts about a month, or at the longest, in good seasons, only six weeks, our aim should be to 'be ready' by the time our harvest opens, and keep just ahead of our colonies with room, and if colonies swarm then open up the hive, and cut out all queen-cells except one, and return the greater part of the swarm, leaving the queen, if a good one, and a small lot of bees to form a nucleus on two or three frames in a small swarm-box.

These small lots are handy in many ways later on, or, if you have a weak stock with an indifferent queen, depose the poor queen and sprinkle the bees with flour. Then from a dredger—or a perforated tin canister, or even a mustard or coffee tin, with lid perforated, answers well—also sprinkle the queen and bees you have reserved from your returned swarm, and unite with the weak stock, and you will not only improve this stock, but if it is early in the season you may hope for a surplus. All one can give by writing is general directions; the size of the swarm, the quantity of brood, the period of the honey harvest, and the age of the queen will all prove factors in deciding the apiarist how to proceed.

Hives for the Heather.—I think Mr. Wood (959) is labouring under a mistake when he condemns the Howard-Melrose hive. As I read the description, I understood it to mean that the floor-board is loose from the stand, and that when packing for the moors the floor-board is fastened to the hive-body by means of screw-eyes, and that when the hives have arrived at the heather the hives are then placed on the stands. In my humble opinion the alighting-board would be better if made detachable (also the porches), and long enough to reach the ground. All my hives have leaning-boards from the ground to the alighting-boards, and they are of great service to the bees to reach home when returning laden and nearly exhausted with long flights or boisterous winds. Cannot friend Wood give us a full description of his new hives?

'Amateur's' honey that has candied with white flakes may have been mixed honey, part of which may be deficient in some of the constituents of good honey, and when it crystallised it is dry, almost inclined to a powdered condition, or it may be from air-bubbles never rising to the top of the bottle, on account of the consistency of the honey. If 'Amateur' warms his honey slightly before bottling another time, he will not be troubled with white spots arising from air-bubbles.

The suggestion of Mr. Dyche (964) to label sections 'This side up' is a very good one, and can easily be done by an indiarubber stamp on the sections. I have noticed the same state of things, and have made it a rule to give instructions to my customers how to handle and care for honey, so that it may keep in a nice, clean, saleable condition. The principal cause of so many weeping sections, and, as a sequence, disgusted retailers, is *damp*. Honey requires dry storage, with a high temperature; this prevents deterioration and also crystallisation to a very great extent.—W. WOODLEY, *World's End, Newbury.*

RE-QUEENING—IS IT ADVISABLE?

[972.] I have been struck with the frequency of the inquiry in the *Bee Journal*, 'How can I prevent swarming?' and as it is probable that in nearly all cases the question is asked by an amateur, I, as one, beg to say that I think it is a mistaken policy to follow year after year. Of course we know that we cannot expect as much honey if we get swarms in the same season, but if the non-swarming plan is followed up for a few years my experience is that the hives will get into such a condition, through having old queens, that we will not get as much honey as if we had allowed them to swarm occasionally.

Of course this can be remedied by rearing young queens and superseding the old ones, but I know very few amateurs, who only keep three or four hives, who make a practice of doing so, perhaps because they think it is not necessary.

I have been led to make these remarks from reading some extracts from 'X-Tractor' (938, p. 76). He says, 'My bees are all the common English bee.' I may say, 'So are mine.' And perhaps they are not so prolific as some of the foreign races. At any rate, I have never had any difficulty in keeping them from swarming, simply by giving them plenty of room and ventilation. Again he says, 'I leave to the bees themselves the duty of re-queening when a revolution is desired.' Now, I have until lately considered this the correct method, but last season, although not a very good one here, yet I thought my bees ought to have done better, seeing that some of my neighbours got much better results; and as I knew that the hives that did best were those that had young queens, I came to the conclusion that I had made a mistake in keeping them from swarming year after year, and not making sure that they had young queens sometimes. I have never lost a stock in winter since I commenced bee-keeping, but I have on two occasions had hives queenless in spring, and had to unite to others. I am not sure they died from old age, but it is reasonable to think they did so.

I have thought it would pay in the long run to let part of the stocks swarm each year be-

fore putting on the supers, as I find a good large early swarm is not far behind an old stock, as this is a district where we remove them to the heather in autumn, and swarms do best there if it is a good season. We have not had a good season since the Jubilee year, but we never give up hope for next time, and when the season comes round you will find never less than 150 or 160 stocks at the heather again, mostly bar-frame hives—which, I think, shows a good deal of faith.

I noticed in your foot-note in reply to 'Sussex Beginner' (930, p. 57), you mention removal of queens yearly as one of several plans for the prevention of swarming. Now, as I have tried 'X-Tractor's' plan of re-queening, and am not satisfied with it, I would like to have young queens in all my hives yearly, or nearly so. What time of year do you recommend the removal of queens, and will it be necessary to have young ones reared to put in their place, or let the bees raise one after the old ones are removed? If it is necessary to have young ones reared before, which do you recommend as the best and simplest plan to attain the desired object?—JAMES FINLAY, *Hensingham*.

[In mentioning the removal of queens yearly, as a means of preventing swarming, we had in mind the plan followed by a very practical bee-keeper who gave a full description of his method in the pages of our monthly, the *Record*, last year. According to that plan the queen of each stock is removed about the end of May, just before the bees are supposed to start queen-cells in preparation for swarming. When the bees find themselves queenless, of course queen-cells are started, and all these, excepting one, are at the proper time removed.

Referring to your query as to the simplest plan of re-queening hives, there can be no simpler one than that of allowing one or two colonies—according to the number of young queens desired—to swarm naturally, and six or seven days afterwards examine the combs of the swarmed stock to find out how many reliable queen-cells are available. This done remove as many old queens from stocks as there are surplus cells, and on the eighth day after the swarm came off insert a queen-cell in each of the now queenless lots, after carefully removing all queen-cells the bees may have started on their own account.—EDS.]

'BEES IN A BLOCK OF STONE.'

[973.] I was much amused by the report (953, p. 88), and particularly that portion, 'The bees stayed in their habitation after the *stone had grown around* it.' This would, perhaps, not have been worth more than a passing laugh, had not our worthy 'Eds.,' by the concluding sentence in their paragraph on this matter, seemed to think that there was nothing very remarkable in the *stone growing round* the bees; but the thing they 'utterly refuse to believe' was, that the bees could remain *alive* during the growing process. This block of stone is said to have come from the quarries near Bath; it would therefore, in all probability, be limestone, belonging to that group of rocks known as Bath Oolite, and celebrated as a building stone. Now, no one can say how many millions of years it is since this rock was formed, but it is certain that it was formed or deposited *under water*. This rock is largely composed of corals, crinoids, or 'stone-lilies,' and over two hundred species of fossil shells have been found in it. This should be quite sufficient evidence, even for those having not the slightest knowledge of the most elementary principles of geology, to show the utter absurdity of supposing that the rock had 'grown' round the cluster. There is not much wonder that the bees had taken possession of a deep hole, six inches in diameter; and still less wonder that they made the stone-cutters beat a 'hasty retreat' on their being so rudely disturbed.—D. W. M., *Ripon*.

[How our correspondent arrives at the conclusion that we thought 'there was nothing very remarkable in the stone growing round the bees' is not for us to say, but if he will kindly read the paragraph referred to again, he will find there is nothing therein to warrant it.—EDS.]

IS THE STANDARD FRAME LARGE ENOUGH FOR ALL PURPOSES?

[974.] Perhaps I may be intruding if I venture to say anything with regard to the standard frame, $14 \times 8\frac{1}{2}$ with 17-inch top bar. Now I have tried it side by side with 16×10, with results much in favour of the latter In the first place, I do not get any dead seams in the large frame, and both last winter and this I have found several hives with the above fault on standard frames. With the large frame I have a denser cluster, and the bees can have more stores close at haud during a long spell of cold—my opinion being that no eke will be required with a deep frame. Perhaps our worthy Editors may think I am attacking them, but I am quite aware one size is best for appliance-makers; but any one (as myself) who makes his own, if he would only try the large frame, he would find it best both for wintering and building up in spring, and honey-producing. The difference in materials for making is but slight: 11-in. boards instead of 9-in., and mine are single walls, $17\frac{1}{2}$-in. top bar, and made to take eight frames and dummy, or nine with dummy out. I used to use a longer top bar with my old hives (being double walls), but find double walls no longer necessary.

Bees have wintered up to now fairly well—only lost two out of fifty-two stocks put up for winter, though a few had dead seams. I never like going backwards, but I must say again I am much more in favour of 16×10 than $14 \times 8\frac{1}{2}$.

With reference to heather hives, I do not care for the one as shown on page 95. I cannot see what a loose bottom is for; neither is the top a good one, in my opinion, for packing close. Now, if you have simple fast bottoms and hopper-shaped tops, the hives you can place one on the other, and the tops (taken off) can be packed as flower-pots, one inside the other, and

take up scarcely any room. The hive I use makes an excellent heather hive, being (outside measurement) 19¼ × 14½ ins.—RETRO-PROGRESS, *Church Stretton.*

[Our correspondent cannot be aware of the fact that the standard frame was, after thorough discussion, adopted as an improvement on those of larger size, which were much used at the time the change was made. It is, therefore, open to bee-keepers to use other than standard frames if they choose, but we cannot approve of such a course as it would only tend to carry us back into the state of chaos from which the adoption of a uniform frame has happily removed both bee-keepers and appliance manufacturers.—EDS.]

A CURIOUS PLACE FOR BEES TO SWARM IN.

[975.] Having read with interest, and perhaps a certain amount of credulity, the extract (953, p. 88) forwarded by one of your correspondents, in which some bees are said to have lived in a block of stone, I recalled to mind an old story, which may be fresh to some of your readers. It is probably one of the earliest references in classical writings that we have of our favourites. It is recorded in Herodotus, the father of history (though, in my school-days, we were taught to call him the Father of Lies!). May I be allowed to translate a chapter of the Fifth Book, in which Onesilus, the author of the Cyprian revolt, has just fallen in battle before the Amathusians?—'The Amathusians cut off the head of Onesilus, because he had laid siege to their town, and brought it to Amatus, and hung it up over the gates of the city; and, when the head was hung up, and was now hollow, a swarm of bees settled in it, and filled it with comb; whereupon the Amathusians consulted the Oracle, and were told to take the head down and bury it, while to Onesilus they were to make yearly sacrifices, as to a hero. If they did this, they would fare better.'—LALEHAM.

LECTURE ON BEE-KEEPING.

On Monday evening, March 7th, in the north side room of the Public Hall, Alexandria, N.B., the Rev. Robert M'Clelland, of Inchinnan, gave a most interesting lecture on bee-keeping to the members of the Vale of Leven Bee-keepers' Association—Mr. Hugh Steven, the President, in the chair.

The lecturer, in his introductory remarks, gave some of his own experience to the members, and then went on to the different varieties of bees. He counselled his hearers to stick to the British black bee as being the most suitable for our climate, but did not discourage members from trying others if they had a mind for crossing. He then dwelt on the structure of the bee, and described its progress from the egg to the perfect insect; also the time the drone, queen, and worker took to hatch; also their different functions in a hive. Passing from the physiological to the practical in bee-keeping, he gave the members a few practical remarks on how to work for extracted and comb honey, but counselled them not to expect fortunes from bees; however, he told them a profit could be made if they were worked carefully.

The lecture was listened to throughout attentively, and the reverend lecturer thanked heartily for his very interesting lecture. The lecture was illustrated by diagrams kindly lent by the Hon. Secretary of the Scottish B. K. A., Sir T. D. Gibson-Carmichael, Melrose.

WEATHER REPORTS.

BUCKNALL, LINCOLNSHIRE. BM. 25.

February, 1892.

Maximum, 55° on 7th.	Rain, 1·71 ins.
Minimum, 1° on 18th.	Average 5 yrs. 1·03 ins.
Mean max. .... 42·9°	In 24 hrs. ·40 ins.
„ min. .... 29·9°	Rain on 16 days.
„ temp..... 36·43°	Snow, 3 ins. on 18th.
„ of 6 years 36·15°	

The morning of 19th gave greatest frost recorded for February, viz., 31° of frost. Also heaviest rainfall for February during last six years. Weather on whole dull and showery.—J. BINT.

BAGNALSTOWN, IRELAND.

February, 1892.

Average rainfall	0·14 in.
From 17th 21st	1·20 „
Number of days on which rain fell	19
Number of days on which snow fell	4
Maximum temperature, 8th ..	54°
Minimum „ 17th ..	22°
Max. ground temperature, 8th ..	42°
Min. „ „ 17th ..	10°
Max. mean „	44·2°
Min. „ „	36·5°
Frosty nights	16

A month of very severe weather; bees prisoners almost the whole time. Had an almost unparalleled fall of snow; drifted, in some places, six feet deep.—J. HENDERSON.

Echoes from the Hives.

Kingston-on-Thames.—From chats with fellow bee-keepers, I learn that in this neighbourhood bees have passed through the winter thus far very successfully, with the exception of one weak lot. Others (including my own) are healthy and strong on the wing, with a fair supply of stores. Am thankful to say there is no sign of foul brood in this district. Have placed a cake of soft candy over frames of each (four hives) as an additional safeguard. Saw, and caught, a queen-wasp a month ago.—CRAWLEY.

WHERE TO KEEP HONEY.

When I first commenced to keep bees I stored my honey in a tight room on the north side of the house, where it usually remained from four to six weeks before crating for market. In crating this honey I always found the centre and back side of the pile watery and transparent in appearance. As that which was stored first was always the worst, I thought it must be owing to that being the poorest or least ripened, until one year I chanced to place this early honey by itself in a warm, dry, airy room, when, to my surprise, I found, upon crating it, that this first honey had kept perfectly, while the later honey stored in the old room was as watery as ever. This gave me the clue to the whole matter; so when I built my present honey-room I located it in the south-west corner of the building I call 'my shop,' and painted the south and west sides a dark colour to absorb the heat of the midday and afternoon sun. On two sides of this room I fixed platforms for the honey, as has been illustrated in one of the back volumes of *Gleanings*. The sections were so piled on these platforms that the air could circulate all through the whole pile, even if it reached the top of the room. During the afternoons of August and September the temperature of the room would often be raised to nearly or quite 100 degrees, which would warm the pile of honey to nearly that degree of heat; and as this large body of honey, once heated, retained the same for some length of time, the temperature of the room would often be from 80° to 90° in the morning after a warm day, when it was as low as from 40° to 60° outside at 6 o'clock a.m. By this means the honey was being ripened each day, and that in the unsealed cells became thicker and thicker, when, by September 15th or 20th, or after being in the room from four to seven weeks, the sections could be tipped over, or handled in any way desired, without any honey running from even the unsealed cells that might happen to be around the outside of the section. By having the door and window open on hot windy days, the air was caused to circulate freely through the pile, when I found that it took less time to thoroughly ripen the honey than it did where all was kept closed. In doing this, of course, it is necessary to provide screens, so as to keep flies and bees out of the honey-room. If I wish to keep honey so late in the fall that the rays of the sun fail to keep the room sufficiently hot, or should I desire to keep it into the winter, or at any time when the temperature of the room falls below 70° while the honey is in the room, I build a fire in the room, or use an oil-stove to heat it up to the proper temperature of from 90° to 100°. In this way honey can be kept perfectly for an indefinite period, and can always be put upon the market in the very best condition.

Having once obtained our honey, it seems very foolish to me to neglect it so that it deteriorates to the condition of a second or third-class article. We should all strive, not only to see how large a quantity we can produce, but also to have it of good quality, keep it looking well at all times, and put it upon the market in enticing shape.—G. M. Doolittle, *in 'Gleanings.'*

HONEY A CURE FOR THE GRAVEL.

A correspondent sends us the following extract taken from the *Family Herald* of January 1846:—'A number of years ago,' says a correspondent, 'I was much afflicted with the gravel, and twice in serious danger. I met with a gentleman who had been in my situation, and got rid of this disorder by sweetening his tea with half honey and half sugar. I adopted this remedy, and found it effectual. After being fully clear of my disease, I declined taking honey for about ten years, and in about three months I had a fit of my old complaint. I then renewed my practice of taking honey (as taken from the comb) in my tea, and am now more than threescore, and have not, for the last twenty-seven years, had the slightest symptom of the gravel. I have recommended my prescription to many of my acquaintance, and never knew it to fail.'

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers of correspondents, or where appliances can be purchased, of replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Laleham (Staines).—*Bees and Wire Netting.*—1. No perceptible hindrance will be caused to the bees' flight if netting of a large mesh is used to keep off the fowls. 2. Short extracts from ancient writers on bees are always interesting, and would be welcome; the only difficulty is to avoid repeating what has already appeared in our pages in years gone by.

W. J. Oates (Faversham).—*Chilled Brood.*—There is no doubt that the brood has become chilled during one of the severe periods of cold lately registered, and the bees are clearing out the dead larvæ from the cells for immediate use. With abundance of food in the combs bees will not destroy and cast out immature brood.

*** *Sending Foul-broody Combs.* — We are already receiving samples of foul-broody combs for examination and report, and desire to impress upon correspondents sending such the need for using some amount of care in packing the comb for post. Such things as tin boxes, used for various purposes—as mustard-tins, &c.—are to be had for nothing, and make secure packages. But in no case should the combs be sent in paper only. Where convenient, letters should also be sent separately, or not put in along with the samples of diseased comb.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The annual general meeting was held on Wednesday, March 16th, at 3.30 p.m., in the Board Room of the Royal Society for the Prevention of Cruelty to Animals, 105 Jermyn Street, St. James's, when Mr. T. W. Cowan (Chairman of Committee) presided, in the unavoidable absence of the Baroness Burdett-Coutts, owing to indisposition. He was supported by the Hon. and Rev. Henry Bligh, the Rev. Dr. Bartrum, the Rev. F. T. Scott, the Rev. W. E. Burkitt, the Rev. R. Errington, the Rev. J. L. Seager, the Rev. G. W. Bancks, Captain Campbell, Major Fair, Messrs. W. H. Harris, R. A. Grimshaw, J. Garratt, W. O'B. Glennie, J. W. Hooker, R. T. Andrews, W. B. Carr, T. B. Blow, E. D. Till, J. Horlick, J. H. New, C. Overton, Wells, Soar, and others.

The Chairman, in opening the proceedings, referred to the absence of the President, remarking that probably the daily papers had informed every one present of the regrettable illness from which the Baroness had recently suffered, and which precluded her attendance that day.

The minutes of the last annual meeting were read by the Secretary, and afterwards confirmed.

The Chairman moved:—'That the report and balance-sheet issued for the year 1891 be received and adopted, with a vote of thanks to Mr. Kirchner, the auditor.' He said that it was usual to take the report as read, because copies thereof were circulated amongst all members of the Association before the meeting, so that every opportunity was given for criticisms or suggestions. Upon examination of the balance-sheet it would be found that the income and expenditure had been much the same as the previous year. There was a slight increase in the latter, but there were several items on which it had been possible to effect economies, notwithstanding that extra work and expenses had accrued. A good deal of time had been devoted to educational work. The Association had, by invitation, given counsel and advice to the branches in respect to grants for technical instruction made by the various County Councils, and a syllabus had been with great labour prepared and sanctioned, and now only waited for the new Committee to give it the stamp of their approval, after which it could be passed on to the several Associations waiting for it. The three shows that had been held—one at Doncaster, another in connexion with the Bath and West of England Agricultural Association at Bath, and the third consisting of honey at the Dairy Show—were most successful, although it was to be regretted that at the latter exhibition the produce was displayed under unfavourable conditions. With regard to County Associations, he was sorry to say that two had been lost, Bedfordshire and Surrey not having affiliated, although he was glad to hear that the last-named county would shortly do so. Berwickshire and Lincolnshire were two new Associations which had joined the parent body; perhaps it would be more correct to say that Lincolnshire had been resuscitated. He thought Mr. Kirchner well deserved the thanks of the meeting for the excellent services he had rendered.

The Rev. Dr. Bartrum seconded the resolution. He thought the report showed that a great amount of solid, useful work had been done. He was glad there had been a slight increase in the receipts, although the balance carried forward was rather less than usual. Having examined the accounts closely, he could give every assurance that the resources of the Association had been husbanded with scrupulous care. They might rely on the experience and sound judgment of Mr. Huckle to see that not a penny was wasted. He was gratified to note an important change in the report, which now published a list of all the experts, showing the certificates (1st, 2nd, and 3rd class) taken by each. That list was obviously a boon to bee-keepers in need of counsel or assistance. He congratulated the members present on the large attendance, which was a pleasing circumstance, considering the trying weather. Besides, the President, Mr. Cowan, had been laid up, and had expressed a fear that he would not be able long to remain so active a worker as he had been in the past. However, every one present, he was sure, hoped the day was far distant when the Chairman would cease to occupy the position he had worthily held for many years. He (Dr. Bartrum) could not help referring to the impending retirement of Mr. Scott, who was one of the first to join the Association. That gentleman had been an excellent friend to the cause, and he (Dr. Bartrum) took the opportunity of expressing a hope that Mr. Scott would be

long spared to favour the Association by his presence, when possible, and his advice.

The Rev. F. T. Scott was extremely grateful to Dr. Bartrum for his kind remarks. It had always been a great pleasure and privilege to be present at meetings of the Association year after year, and he thanked the members for their confidence in electing him from time to time. As, however, he had now passed his eightieth year, he felt the need of repose, and also his inability to attend all the meetings, especially in winter-time; but he would never fail to assist the Association to the extent of his power.

The resolution was carried unanimously.

Mr. Grimshaw moved, and the Rev. W. E. Burkitt seconded, a vote of thanks to the retiring officers and Committee, which was carried *nem. con.*

The Hon. and Rev. Henry Bligh, in proposing a vote of thanks to the Council of the Royal Society for the Prevention of Cruelty to Animals for the gratuitous use of their Board Room for Committee and other meetings, alluded to the enormous advantages Bee Associations derived from the Society's help. He felt personally indebted to the R.S.P.C.A. for allowing the Middlesex Association to make use of the room, and no doubt the Kent Association, which enjoyed the same privileges, was animated by a similar feeling.

Mr. Andrews seconded the motion, which was carried unanimously.

The Chairman said the next resolution referred to the election of officers for the present year, and said, with regard to the Presidency, they had always looked up to the Baroness Burdett-Coutts as their queen-bee, and he was sure they would all be proud to have the honour of re-electing her Ladyship. At the same time he could not help referring to the fact that the distinguished lady had recently been very ill, and was still suffering from the effects of such indisposition; and he had good reason to believe that this circumstance, as well as the Baroness's advancing years, which rendered her more and more delicate, and consequently less able to give active assistance to the cause, would make it necessary that at no very distant date the Association must seek a new President. However, he had now much pleasure in proposing her re-election.

Mr. Harris felt that the Association was greatly indebted to the Baroness, and could not too warmly express its gratitude. He heartily seconded the motion.

The Rev. J. L. Seager hoped that her Ladyship would remain President to the end of her days, even if it became necessary to appoint a Vice-President as Acting President.

The Chairman next proposed, in separate resolutions, the re-election of the several gentlemen who had efficiently fulfilled the duties of the various offices in the past year, each of which resolutions was seconded and carried without dissent.

The Chairman stated that Mr. C. C. Osborne, Secretary to the President, had kindly examined the voting-papers for the election of the Committee to act during 1892, and the result of his scrutiny was that the following fifteen gentlemen were elected, the number of votes for each being in the order in which the names were given:—Mr. T. W. Cowan, the Hon. and Rev. Henry Bligh, Mr. W. Broughton Carr, the Rev. Dr. Bartrum, Mr. W. Lees M'Clure, Mr. H. Jonas, Mr. J. Garratt, Mr. R. T. Andrews, the Rev. J. L. Seager, Captain Campbell, Major Fair, the Rev. R. Errington, Mr. W. H. Harris, the Rev. C. G. W. Bancks, and Major-General Battersby.

The Chairman called attention to the fact that, as at present constituted, the Association had no power to appoint honorary members. He thought it very desirable that some provision of the kind should be made, whereby the names of persons of eminence, at home and abroad, who would shed a lustre on the Institution, might be added to the list of Vice-Presidents, or otherwise enrolled amongst the members. He thought a special meeting should be called to consider the subject, when Mr. Seager's suggestion could also be discussed; and it was ultimately agreed, on the motion of the Rev. J. L. Seager, seconded by Mr. Till, to call a special general meeting for the purpose of deliberating on the matter adverted to by the Chairman, more than the requisite number of hands being held up in favour thereof.

Mr. Grimshaw next called attention to the apparent unfairness of schedules which allowed exhibits to compete for prizes in cases where such exhibits were not the invention nor the production of the exhibitors. Probably the evil referred to had come within the experience of all present. It seemed to him a great injustice to the inventor or maker of hives or appliances that mere purchasers should be allowed to show such goods in competition for prizes. When he gave notice about this matter he was recommended to leave honey out of the question; but he was determined to have the courage of his convictions. It was distinctly unfair if any schedule allowed the exhibition of honey not gathered by the exhibitor's own bees. He would make an exception in the classes for collections of appliances, which were intended to show the progress made in appliance manufacture.

Mr. Hooker said that the B.B.K.A. had always stipulated that as regarded honey.

Mr. Grimshaw pointed out that no such condition existed in the schedules of the Royal and Dairy Shows.

The Rev. J. L. Seager said it was an undoubted fact that honey which had been purchased was exhibited. He had met with such cases when judging, and thought it very unfair. He had drawn attention to the matter, but had found there was no rule by which such exhibits could be excluded from competition. On three separate occasions he had given a prize to the same lot of honey; once to the man whose bees gathered it, and twice to the man who bought

it. He did not think it wise to insist on the stipulation with regard to hives, because, in out-of-the-way places, the exhibits would probably be of a most inferior quality if such restriction existed; and it was not worth while for cottagers and others to go away from shows under the impression that they had seen the best inventions when that was far from being the fact.

Mr. Carr thought the evil pointed out by Mr. Seager did not apply so much to hives as to appliances, many of which were made almost entirely by one manufacturer. If a hard-and-fast line were laid down, there would be an insignificant number of exhibits in the extractor class, for instance, about fifty per cent. of which were made by one man. With regard to honey the question was a difficult one to deal with, but he quite agreed that some limitation was necessary.

Mr. Grimshaw considered it a hardship to the maker of the extractor when a man could buy the extractor and exhibit against the maker.

Mr. Meggy thought that if the restriction were placed on hives very inferior contrivances would be exhibited, certainly at the local shows in Essex. Thus the public would be imposed on.

Mr. Hooker explained that the Royal Show being the first of the year, most manufacturers made an effort to get their best and newest inventions exhibited there, the result being that any person might go and purchase all the articles and send them to every show throughout England.

Mr. Carr believed it to be highly important to do nothing likely to restrict entries, which were already quite difficult enough to obtain.

Mr. Garratt thought that if the B. B. K. A. took any action in the matter with regard to their own shows, it would be better to leave County Associations, who knew best the capabilities and necessities of their own districts, to take whatever course they chose.

The Chairman agreed that all honey should be the produce of the exhibitor's own bees. As to appliances, he could not go with Mr. Grimshaw, because, under the conditions mentioned, there would be no exhibits at all at many shows. He did not see where the hardship existed, as described by Mr. Grimshaw. No matter who obtained the prize, any business promoted thereby must inevitably benefit the manufacturer's pocket.

After some further discussion, a resolution was carried unanimously to the effect that the Committee of the B.B.K.A. be requested to bring influence to bear upon the managers of honey shows in order to restrict the exhibition of honey to that produced by the exhibitors' own bees.

Mr. Grimshaw moved: 'That the B.B.K.A. be asked to recommend the framers of schedules to prohibit the exhibition for competition of hives and appliances not the invention or manufacture of the exhibitors, except in collection classes.'

Mr. Hooker seconded the motion, which was further discussed at some length; and ultimately it was resolved that the subject be referred for consideration to the Exhibitions Committee.

Mr. Hooker announced that it was proposed by the Fruiterers' Company to hold a large exhibition of fruit on the Thames Embankment, and that he had been asked by the Committee to draw up a schedule for honey exhibits, and prizes to the extent of 50*l.* would be offered for competition.

Mr. Garratt begged to be allowed to propose the following resolution, which was not on the agenda, viz.: 'That the thanks of this meeting be given to the proprietor of the *B. B. J.* for the great services which the paper has rendered to the cause of bee-keeping, and to the interests of the B. B. K. A.' When it was kindly offered to open the pages of the *B. B. J.* to ventilate all matters of interest to the Association, the Committee gratefully acknowledged such assistance; but a long time had elapsed since then, and they were apt to lose sight of the many benefits which had accrued to the Institution and bee-keepers generally, for all of which he was sure their best thanks were due to Mr. Cowan.

Mr. Hooker heartily seconded the motion, which was carried by acclamation.

The Chairman said Mr. Garratt's resolution had taken him entirely by surprise, but he thanked him and all present most sincerely for their kind recognition of any services rendered by the *Journal*. He had done all in his power by means of its columns to help bee-keepers. He looked upon it as the organ of the Association, which should derive all the benefit from it that could be afforded so long as the paper was in his hands. He could not but feel, from the way in which the resolution had been passed, that all were satisfied with the manner in which the *Journal* represented the interests of the Association. He would act in the future as he had done in the past, by showing no favouritism of any sort, but by opening its pages to the discussion of any point interesting to bee-keepers, drawing the line only at abuse or personalities. Mr. Hooker had referred to a forthcoming show of the Fruiterers' Company. He (the Chairman) recollected, a year or two ago, waiting on Sir James Whitehead, master of the Fruiterers' Company in pursuance of a resolution passed by the Committee, when that gentleman recognised most fully the importance of bee-keeping forming part of a scheme projected by the Company for giving instruction in fruit-culture. Probably the offer of 50*l.* in prizes was due to the influence of Sir James Whitehead, who he knew was favourably disposed to the cause of bee-keeping.

The Rev. Dr. Bartrum proposed, and Mr. Grimshaw seconded, a vote of thanks to the Chairman, who, in acknowledging the compliment, said, in reference to some observations that fell from Dr. Bartrum, that it had been his intention to retire from the Committee for a year or two, so that that body might have the advantage of a new chairman and new blood.

He was glad that his view had been to some extent realised by the election of several new members on the Committee. Yielding to pressure, he had consented to offer himself for re-election, but at the same time he hoped that they would take into consideration that his retirement could not be long delayed. Ill-health had compelled him to be absent from meetings occasionally. The work increased, while his health decreased. He was now obliged to leave shortly for Africa, and would consequently be away for some time, but hoped to return with renewed energy.

Subsequently a meeting of the Committee elected for the ensuing year was held, at which it was unanimously resolved that Mr. T. W. Cowan be elected Chairman, and the Hon. and Rev. H. Bligh Vice-Chairman for the ensuing year. It was further resolved that Committee meetings be held on the third Wednesday in each month. The annual first-class examination of candidates competing for certificates of competency in bee-keeping was fixed for Wednesday, May 18th, the second-class examinations to take place on October 28th and 29th.

(*The report of the proceedings at the subsequent Quarterly Conversazione will appear in our next.*)

HUNTS BEE-KEEPERS' ASSOCIATION.

The annual meeting of this Association was held on Saturday, March 5th, at the Fountain Hotel. Mr. A. W. Marshall presided, and among those present were Messrs. E. Allen, J. H. Howard, Sharpe, R. Brown, W. H. Woods, J. Hobbs, and the Rev. C. G. Hill (Hon. Secretary).

The accounts showed a balance in hand of 2*l.* 12*s.* 2*d.*, so that the Society may be considered in a good financial position.

According to the annual report, several alterations were made in the rules to enable the Association to establish separate classes for cottager members competing for prizes at shows, and also with reference to the medals and certificates of the B. B. K. A. Some correspondence had also taken place between the Hon. Secretary and the Hunts County Council with regard to an application for a grant in aid of technical instruction in bee-keeping throughout the county. An answer was received stating that bee-keeping came under the heading of agriculture, and that the County Council had decided to do nothing in respect to technical education in agriculture at present. The matter therefore stands over for the present.

The report was adopted.

Lord Sandwich (President) and the Vice-Presidents were re-elected, the names of Messrs. R. Brown and W. Woods being added to the Committee. Mr. A. W. Marshall was again appointed Treasurer, and the Rev. C. G. Hill Hon. Secretary. Mr. J. Linton and Mr. C. N. White were appointed representatives to the B. B. K. A.

The meeting closed in the usual way.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

Local Bee-keepers' Associations throughout Scotland should now consider the benefits to be derived from affiliation with the Scottish Bee-keepers' Association. At present owing to a variety of reasons, the chief of which is the youth of the Association, as much useful work has not been accomplished during the past year as its founder would have wished, but with an increased membership and as many local Societies as possible in affiliation with the S. B. K. A., there is no doubt it will become of real utility to Scottish apiarians both from a scientific and commercial point of view.

In furtherance of the former branch of the industry there will be the annual show, where a capital classification will be provided for appliances, and the inventive faculties of the members will have an opportunity of being displayed, and meritorious contrivances connected with bee-keeping will be awarded suitable prizes. The entry fees to members exhibiting will be very low as compared with those for non-members.

Should sufficient encouragement be given, the Executive will arrange for lecturers to deliver addresses on bee-matters before local Associations affiliated with the S. B. K. A., and will provide these gentlemen with diagrams and specimens to aid them in their lectures. A lending library will also prove a boon to many members who may wish to read some of the rarer and more costly books on the honey-bee.

From a business point the S. B. K. A. aims at securing the best available market for the products of its members' bees. Than next month there is no better time for the formation of local Associations, and I would be pleased to send the rules of the Melrose B. K. A. so that they might be considered by the promoters of any new Society. It would also give me pleasure to assist them in any other way.—JOHN WISHART, *Assistant Secretary, B. B. K. A., Market Place, Melrose, N.B.*

THE 'MARSHALL' FUND.

	£	s.	d.
Donations already acknowledged ..	15	5	0
Miss Beach	0	10	0
X-Tractor	0	5	0
F. L. Sealy	0	3	0
F. J. Cribb	0	2	6
Total ..	£16	5	6

In closing the subscription list for the above fund, we tender thanks on behalf of the late Mr. Marshall's widow to those who have contributed to it, and it will no doubt be gratifying to the several donors to receive our assurance that the sum raised will be applied to good purpose, and that in the hands of an active, industrious, and worthy person, as we understand Mrs. Marshall to be, it will be of lasting service to herself and family.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

TAKING HIVES TO THE MOORS.

[976.] As a reader of the *B.B.J.*, I have read from time a good many letters on 'Hives for the Moors,' 'Packing, Loading, and Ventilating,' &c. A great deal of what is recommended, in my opinion, is unnecessary and useless. I have taken hives to the moors for a good many years, never but once having any serious disaster; and on that occasion we had a good many combs broken down by crossing a beck with a very unsteady horse. It took the driver some hours to get him to cross, and when he did go it was with all the speed he had, and there were stones in the beck larger than the horse's head. The result was a regular smash: some of the bars were out of the body of the hives, and, when landed, some of the bees were driven into the roof. However, a first-class season followed, and they came back good hives. Our hives have loose bottoms; these are secured by three or four screws. The ordinary entrance slides are taken out, and a slide specially made, with perforated zinc tacked on to it the full width of the entrance, used. This is all the ventilation we give, and if travelling by night, as we do, it is all that is necessary. We have a nice spring rully, and load the bar-frame hives all round the outside. The alighting-boards hang over, the hive-fronts being flush with the side of waggon. The back of the hives are packed up to the level with the front by placing two rails the whole length of the waggon (these come in for a stand on the moor). The space in the middle of the waggon we utilise for straw skeps, or a tall hive or two between the hives. We pack with straw or hay. In this way we travel twelve miles. We have discontinued crossing the beck above referred to. On good road we run away at a nice pace, on rough we go slowly. When we get our bees on their stand we simply remove our slides with the zinc on, and replace the ordinary ones, and they are ready for business, supers, &c., being put on and fixed before leaving home. I have had a look through my hives to-day. On removing the quilts (American cloth), I find them all more or less wet on the under side, some a little mouldy; one, which I left the super on all winter, I find the same—quite wet under quilt, combs commencing to mould. What is the cause of this? All have suffered from dysentery: mine always do if the weather keeps them, confined for more than about six or seven weeks. Two or three days' flight generally cures them, if not too late. A cross-bred Carniolan and Ligurian has come through the strongest, and is taking the lead this spring, young bees being out of it. Every fine day a little, very little, pollen is being gathered from the coltsfoot, our earliest bee-flower, and plentiful, lasting for a month or five weeks. We rarely get any surplus honey until the white clover is out; occasionally we get a little from whitethorn blossom, and sometimes from brasick. I have stored up a few 'Useful Hints' from the *Journal* for trial this next summer, hoping for fine weather, with success to the *Journal* and bee-keepers.—Stratagem, *Harrogate.*

A NEW SPRING FEEDER.

[977.] During the autumn I visited a friend's apiary, and he not being able to get in a sufficient quantity of syrup before the winter set in, and knowing that the stores would not be sufficient to last them until spring, I tried to persuade him to place on a large cake of candy, but he thought syrup would be better, so having made a feeder that I had not properly tested, I lent it to him early in January to test, and I find it has been quite a success. His bees are in excellent condition and the queens have been laying considerably for the last two months. I will explain its construction:—Take a glass tube one-eighth inch in diameter, and with the aid of a gas jet bend it about three inches from one end in the ordinary syphon form, thus, ⌐; to work it fill any ordinary vessel full of syrup and place it on the honey board or quilt and fill the tube by suction; place the short end that is bent into the syrup and guide the long end between any two frames you may wish it to occupy, through the board or quilt into the brood nest. I should here mention that a small piece of sponge is inserted into the long end of the tube which goes between the combs, to prevent the syrup from running or dripping. The bees are able to get a very limited supply through the sponge, but not sufficient for storage purposes. I think any one will soon see where the cheapness and usefulness of the article comes in, viz., no loss of heat, as when using an ordinary feeder, and having to uncover the hive; there will always be about four inches of the syrup in the tube of the same temperature as the cluster of bees. I think that if the feeder is properly tried it will supply a long-felt want as a stimulating feeder, being cheap and having the advantage of a good and steady delivery.—Philander Jowett, *Bingley.*

A COTTAGER'S RESULTS.

[978.] I hope the following will be worth a place in the *Journal* as an encouragement to those about to commence bee-keeping. Mr.

John Collins, an energetic cottager bee-keeper, handed in to our last meeting a balance-sheet showing the results of his first six years' experience from three stocks of bees.

		£	s.	d.
1886.	Result, *nil.*			
1887.	109 lbs. .. .. value sold,	4	9	9
1888.	9 „ (a very wet year) „ „	0	11	0
1889.	199 „ .. .. „ „	9	15	8
1890.	70 „ .. .. „ „	3	14	11
1891.	149 „ .. .. „ „	7	0	5
	Honey for own use, value ..	4	6	0
		29	17	9
	Total expenditure,	7	10	4
	Net profit,	22	7	5
	Or, an average yearly profit of	3	14	6
	With stock-in-trade value	£5	4	6

It should be understood that only materials for hives are charged in expenses account, the hives being made by the bee-keeper himself.—THEODORE F. S. TINNE, *Local Hon. Sec. Kent B. K. A.*

HONEY AS A MEDICINAL AGENT.

[979.] With a view of bringing the virtues of honey, both as a natural and most efficacious medicinal agent, and as a wholesome, nutritious article of diet, before the general public, I am preparing a small book. It will be written in a popular style, and published at a *very low* price or distributed gratuitously. If any of your readers have any facts or figures illustrating either part of the subject, I shall be glad if they will kindly send them on to me. I will gladly undertake to return them, if desired, after I have either copied or otherwise made use of them. In the interest of the subject generally, and of bee-keeping in particular, I am wishful that the little work should be as complete as possible.—R. WARD, *Milton House*, 215 *Ham Park Road, Forest Gate, E.*

PACKING HIVES WITH CHAFF FOR WINTERING.

[980.] Perhaps some of your readers will kindly give their experience of packing hives for winter. Formerly, and I use some still, I used hives upon the 'Cowan' principle. The space all round between the body (16¼ inches square) and the outer case was 2⅝ inches, the outer case being made of ¾-inch pine. For wintering I would bury the body in chaff. In the spring, when I remove the chaff, I would find it all wet, like manure, round the bottom of the body (this moisture could only come from the bees themselves), so that I gave up the chaff packing, merely leaving the body with the usual quilts on the top, since which time I have always found the floor-board dry in spring, and have never lost a colony, if I except two which I lost in the winter 1890–91 through late feeding. I had fed them in October, but finished feeding by the 9th of the month; but the cold weather setting in they were unable to seal up the cells, as I found on examination, and so perished from dampness, the combs being all mildewy.—A. T. WILMOT, *St. Albans.*

[As we have never experienced the slightest difficulty in keeping both hives and packing perfectly dry when covered with chaff, as described, we cannot account for the failure detailed above. That there is a fault somewhere is, however, certain; whether in the 'hive' or the 'management' of our correspondent it is not for us to say.—EDS.]

WAX-EXTRACTING.

[981.] As a bee-keeper of only two years' experience, I of course read my *Bee Journal* carefully, and noticed the letter on 'Wax-extracting' (932, p. 66). I did not try the 'beef tins,' but made a basket of perforated zinc, which, when filled with comb, I put in the boiler on a stand, and the boiler was then half-filled with water. When the melting was finished, I set the boiler on one side till morning, for the wax to cool, thinking that I had done well. However, on removing the cake of wax, I found a lot of dirty refuse sticking to the bottom; so I emptied the boiler, refilled with clean water, as before, and boiled the whole up again. It turned out a little better, but not much. Determined to try again, I next got a tin, as directed, pricked the bottom full of holes, and, filling it with wax and a biscuit tin with water, put the whole in the oven, and gave it another melting. Again failure resulted, wife spluttering all the time about my 'messing everything with wax.' So I had to give it up as a bad job, feeling sure the wax is not fit for sale Can you tell me the cause of my failure?—W. WRIGHT, *Stoney Stratford.*

[Our correspondent has scarcely given a fair trial to the plan described on p. 66. In the latter case, the wax is not touched by water at all, except in the form of steam, which permeates the combs, and causes the wax to ooze through the perforations of the 'basket' into the water below; while, if we rightly read the details given above, the whole of the combs, old pollen, &c., were boiled up together. Supposing that the combs were old and black, there would be sure to be some discoloured *débris* on the underside of the wax when cold. The latter should have been cut off prior to remelting.—EDS.]

PLANTS FOR BEE-FOUNTAIN.

[982.] Could you or any of your correspondents in *B.B.J.* suggest a suitable plant to grow in a crock about one foot in diameter, for the purpose of keeping the water from drowning the bees, as a substitute for moss, which I now use? I wish to know the name and the place where it may be obtained, and I consider the information might at this time be of more than

individual interest. I have ten bar-frame hives, and do not consider the inverted bottle, as advised in *Guide-book*, good enough. It may suit very well for a few hives; but, as I propose doubling my stocks in time, I prefer getting something having a wider area, and requiring less attention, and which the bees will more readily take to than the bottle. About a year ago a plant was named in *B.B.J.*, but I have mislaid the number. I am in correspondence with a nurseryman, but, lest I might order something poisonous or injurious in any way, I have delayed until I am better advised. I intend this drinking-place to be a permanency. I have sunk a piece of trunk of a tree to form a pedestal for the crock, and if I had a proper plant all I believe I would have to do would be to throw in a jug of water in dry weather. —Robert de B. Saunderson, *New Ross, March 17th*, 1892.

[Perhaps some of our readers will kindly supply the information asked for.—Eds.]

SOME CRITICISMS ON 'CORRESPONDENCE.'

[983.] *Leaky Roofs.*—I have found that all wooden roofs begin to crack sooner or later. If these cracks be filled up in any way, as soon as the rain comes the wood swells, and, on drying, the crack extends further, and the leakage is worse than before, so that I have long since covered my roofs with zinc painted a light colour, and, being put on properly, I have never known it to buckle. I cannot see how cork dust, as recommended by your correspondent (968, p. 99) can affect the leakage one way or the other.

Bee-passages over Frames.—It appears to me that if bees require to go over frames (?) that it would be simpler and better than the plans described by 'Alpha' (935, p. 67) and 'C. R. S.' (967, p. 99) to puncture one or more holes in the comb just under the top bar.

Home-made Wax-extractor.—I think your correspondent's communication (932, p. 66), as regards wax-extractors a very useful one to bee-keepers, but larger tins than fourteen-pound corned beef, could they be obtained, would be better. How would soft-soap tins do? (Mr. Findlay will kindly understand that I am not soft-soaping him). And would it not be better to melt off the bottom of the inner tin and supply, say, cheese-cloth in its place, as I explained in my description of an extractor at 779, p. 419?—A. T. Wilmot, *St. Albans.*

Echoes from the Hives.

Honey Cott, Weston, Leamington, March 19th.—The last two or three weeks the weather has varied very much, some of it being so bad we could scarcely think of anything else, with snow storms and bitter, cutting winds, temperature going down some nights to 12° of frost. Till the last three or four days the bees have had no chance; but didn't they enjoy it yesterday and the day before, with sun shining and the thermometer up to 62°! They were rushing about and going for the pea-flour and water with a will, as much as to say, 'We will get something while we have the chance.' One or two of my stocks appear to have been warmed up, as we call it, when we mean the other way, dead bees being carried out, showing the severe cold had caught some of them during some of the cold weather. I noticed some would rush out, after water I suppose—for they appeared to return in as great a hurry.—John Walton.

Queries and Replies.

[496.] *Managing Bees away from Home.*—I have four colonies, a long way in the country, which I can only see for a few weeks in the year. They are strong and healthy, I hear. As I cannot attend to them myself, I doubt the wisdom of increasing the number of colonies. Before swarming-time comes, therefore, I should be obliged if you would say:—1. Would it be well to return the swarm to the parent hive? 2. If well, should the queen be put back with them or not? 3. If not put back, what should be done with her? 4. Is a 'Buncefield' hive large enough for the new and old bees? 5. In returning the swarm, would you sprinkle the bees with flour? 6. Can comb built on full sheets of foundation in sections be distinguished from the natural comb built by the bees?—10 C. T.

Reply.—1. Beyond taking the usual steps to prevent swarming, there is obviously no other means of avoiding increase but that of returning the swarm after removing all queen-cells. 2 and 3. The old queen may be preserved or destroyed as you prefer. In the latter case, all queens-cells, save the best and most forward one, must be removed before returning the swarm. 4. Yes. 5. No. 6. Not in outer appearance, but the mid-rib, or dividing wall between the cells, is usually a little thicker in comb built on foundation.

[497.] *Bee-escape Windows.*—1. What is a 'bee-escape window?' Is it simply a window to open like a fanlight, or is it contrived to let bees out without letting them in? Bees get in my hut and cannot get out. 2. What is the advantage of wood over metal dividers, as you advise in section boxes?

Reply.—1. There are several forms of what are called 'bee-escape' windows. In one the panes of glass are in one piece, and are cut so as to leave an opening to the outside half an inch deep at bottom of each square, through which the bees pass on flying against the glass when

seeking the light. To prevent bees getting in from the outside, a piece of perforated zinc, about six inches wide, is nailed across the sash three-eighths of an inch from the glass. Another form is a window which revolves on central pins. As often as a number of bees seek the window in their endeavour to escape, it is turned inside out, and they can fly off. 2. Wooden dividers are prefered as being warmer and more grateful to the bees than metal.

[498.] *Aspect for Hive Entrances.*—1. Does it matter which way the entrances of hives are put; east, west, north, or south? 2. I have a piece of ground 100 feet by 30 feet; how many stocks could I put on such a space, and towards what point of the compass should the entrances be placed?—S. W. F., *Swindon.*

Reply.—1. South or south-east are considered to be the best aspects for hives to face, but cases are known where bees have done well with entrances facing to all points. It is well, however, to avoid placing them front on to prevailing cold winds. 2. Hives should, if possible, be not less than two yards apart.

BEE-KEEPING FOR BEGINNERS.

A Paper read by Mr. Peter Bois *before the Members of the Society of Jersey Gardeners on February 11th,* 1892.

Having kept bees in frame hives exclusively for several years, I shall deal mainly with the subject of bees kept in such hives; I shall, however, also give a few directions for keeping bees in straw skeps and other hives with fixed combs, because there are still several of these hives in use in this island, some of which are under the care of gardeners, and also because it may fall to the lot of any gardener, at one time or another, to have to manage bees in what are known as common hives.

In bee-keeping, as in every other pursuit, there are many small matters which must be carefully attended to if you desire to obtain favourable or even satisfactory results. Dealing briefly with a few of these, I may say the first and most important element of success in bee-keeping rests with the bee-keeper himself. He should be of a gentle, patient, inquiring, observing, orderly, and very persevering character; he should study carefully one or more of the standard works of the present day on bee-keeping and master the principal details of the science, so as to be well armed to meet the difficulties to be confronted in that pursuit, and ready for any emergency. Next, I would advise all those who have the care of bees to subscribe to, at least, one bee journal. A monthly, such, for instance, as the *Bee-keepers' Record,* costing twopence, which means an outlay of two shillings yearly, and will keep you in touch with the needed information on all the most important matters that you will have to deal with in bee-keeping.

Before dealing with the bees and the hives, I would say that there is a great advantage in the manipulator being suitably protected, even if he only has charge of a single hive of bees; because, unless well protected, he will not do his work quietly and safely, as he should. The mere cost of being suitably dressed at the outset will be lost several times over if the work among the bees is bungled, instead of being properly carried through. I have always worn a veil and bee-gloves when manipulating, and yet I have found at times the bees of some colonies would manage to become masters, and cause the bee-*master* to retire into a quiet corner to re-arrange his bee-dress, the angry bees, of course, following. Gardeners who have to manage bees for their employer should be provided with veil and gloves; they will get to know at what times to wear or dispense with them. Wear, preferably, a smooth, light-coloured dress, and tie a cord or line around the waist to prevent bees getting inside the veil. The bees of particular colonies sometimes have a habit of getting up the legs of one's trousers, in which case the bottom of the trousers must be tied to prevent the ingress of bees.

Whether bees are in common hives with fixed combs, or in frame hives with movable frames, three tools or implements are indispensable when working among the hives. These are a good bee-smoker, a strong screw-driver, a long, bent scraper, and on some occasions a suitable bee-brush, penknife, and a pair of scissors.

The best fuel for the smoker is white touch-wood; the cherry and sycamore furnish some such which is very good. When this cannot be had, the darker-coloured may be used. Peat moss also makes good fuel. Failing these, brown paper may be used; but all fuel must be well dried before using.

As to the bees themselves, our ordinary Jersey variety furnishes an excellent strain of bees, being good-tempered and hard-working, besides possessing very prolific queens. A cross between ours and the best strains of Carniolans, or of Italians, tends to increase the vigour of our variety, while inferior strains of foreigners are worse than useless to blend with ours, since they tend to impair rather than to improve our native bee.

Straw skeps are still used here, and bees winter well in them. Their small size does not allow the queens to develop to their full laying power; the result is, the colonies swarm, and though their innocent owner has great pleasure at the increase in his colonies, it implies the dismemberment of his stocks just when the bees of the practical apiarist are securing the honey crop. For straw skeps the queens should be stimulated to breed early by fixing close-packed coils of hay or straw round the hives, covered with thick straw hackles neatly held down with hoops. Remember that the bee-cluster, which descends as the brood nest increases, usually touches the floor-board before the bees swarm. Accordingly, when the bee-cluster reaches down to within two or three inches of the floor-board, procure the lower part of an empty skep which

has been cut about midway for that purpose, and place it as an 'eke' under the straw hive, fastening the two together with three or four wooden pins. The bees will soon fill the empty space thus afforded below, and if they are swarmed artificially, or are allowed to swarm naturally, they will supply a much heavier swarm than they would otherwise.

Two types of frame hives are in use here, viz., the square and the long hive. The long hive holds twenty frames in the body, and the same number in a super on top, protected by the hinged cover. I prefer double walls packed with cork dust all round for the body of long hives, to give ample room at the ends as well as at the sides, between the super and the cover. The entrance is sixteen inches long by three-eighths of an inch high, with metal slides for contracting when needed. The frames in both types of hive are hung at right angles to entrance. The square hive holds thirteen frames, and admits of placing two or three stories or super boxes on top, each holding thirteen frames, a loose cover being placed over all. It is double walled front and back, as I have found these to give better results than those with single walls. I use loose floor-boards, and alighting-boards the full width of the hive and about fifteen inches deep. During the heat of the summer the front of the hive is raised a quarter of an inch to give additional ventilation. I have found by experience that an entrance so enlarged is sufficient, and preferable to a higher one. The standard frame, fourteen inches long by eight and a half inches deep, is used in all hive bodies, and what are called shallow frames, fourteen by five and a half inches deep are used in the supers. The top bar of the frames I use is of the type known as Abbott's broad-shouldered.

All my combs are built on full sheets of foundation, and store combs are packed away during winter in special air-tight cupboards, each holding six dozen frames. I only preserve such combs as are perfectly clean, free from pollen, and well built in worker cells. Any damaged ones, or those which contain more than a very few drone cells, are melted down for wax. Thus the combs are as fresh each year as if just removed from the hives. Shallow frames are used for extracted honey, the honey being sold in glass jars weighing half a pound, one pound, and two pounds respectively. In producing honey for sale in the comb, ordinary crates of one-pound sections are used.

I have always stocked my frame hives with large artificial swarms obtained from eked or enlarged straw skeps. I weigh all my swarms before hiving, and the artificial swarms from these eked skeps usually weigh from seven to twelve pounds; while natural swarms from simple small skeps seldom weigh more than three to four and a half pounds. The gentlemen present will see here one of the elements of my continued success over several years—that of having and keeping all my stocks extra strong.

(*To be continued.*)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

**** Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

'Derfla' (St. Albans).—1. We do not know the address of the gentleman named. The remainder of your queries relate to matters outside the province of a bee journal, and we are unable to answer them.

F. Sladen (Ringwold).—1. Your paper on the 'Humble Bee' would, no doubt, be interesting, and we should be pleased to have it for insertion during the quiet months of the year. 2. The plan of 'uniting' mentioned is quite well known.

Salopian (Malvern Link).—1. We see no trace of disease in bees sent. Any uncertainty as to the cause of death must be cleared up by inspecting the combs on the first fine day. 2. Bee sent is only a worker.

Ambrose (nr. Rugby).—*Specking on Alighting-boards.*—Any excessive specking on flight-boards is indicative of dysentery, but there may be no cause for alarm if only a few marks are seen. In any case the hive should be opened and the combs examined. If the yellow or brown spots are observed on the faces of combs there is danger, the remedy for which is warm food and a dry hive, with warm, dry surroundings.

Wellesley.—1. To loosen bar-frames when fastened down with propolis a small screw-driver may be used as a lever. 2. There are many lady bee-keepers, and some of them succeed very well in the pursuit. 3. Quite as good results may be obtained from the kind of hive you name as from the more expensive ones. Of course those with outer cases are somewhat more costly than single-walled ones. 4. The flowers of field-beans sometimes yield considerable quantities of honey.

Lantern Slides.—Mr. W. Dixon, of Leeds, has been kind enough to forward us some slides prepared by himself. They remind us of some prominent events at some of our shows—Mr. Green driving bees in the bee-tent, and Mr. W. Carr, of Manchester, handling bees before an audience, are very neat. There is an excellent slide—one of the best we have seen—showing worker, drone, and queen, life-size; combs, and queen-cells, and a rustic apiary of skeps. The design 'God save the Queen,' worked out in comb, and shown at the Windsor Show, makes a pretty slide.

CAUTION.—LAST DAY OF ENTRY, APRIL 30th.

POST ENTRIES *received up to May 12th on payment of* DOUBLE FEES.

ROYAL AGRICULTURAL SOCIETY of ENGLAND.

WARWICK MEETING, 1892.

Commencing MONDAY, JUNE 20th, and closing FRIDAY, JUNE 24th.

PRIZE LIST FOR HIVES, HONEY, &c.

APPLIANCES.

A price must be affixed to each article exhibited in the Classes for Appliances, the price named to include every portion of the Exhibit staged.

CLASS 282.—(Open to Manufacturers of Bee Appliances only, being articles sold in their usual way of trade.)—For the best collection of Hives and Appliances, to consist of the following articles:—Three Frame Hives complete. (*Note.*—These Hives must be fitted with arrangements for Storifying.) One pair of Section Crates fitted with Sections; one Extractor, one slow stimulating Feeder, one rapid Feeder; one Smoker or other Instrument for quieting Bees; one Veil; one Swarm Box for travelling purposes; one Nucleus Hive for travelling; one Travelling Crate for Comb Honey; and other distinct articles not specified, at the discretion of the Exhibitor. The whole to be staged on 50 superficial feet. Price to be affixed to each article. No articles must be added to the collection, nor any portion of the Exhibit removed, during the Show. First Prize, 100*s.*; second Prize, 50*s.*

CLASS 283.—For the best Observatory Hive stocked with Bees and Queen, the hive to contain not less than three Standard Frames; each comb to be visible on both sides. (N.B.—The Hive must be provided with arrangements for the flight of the Bees during the time of the Show.) First Prize, 20*s.*; second Prize, 15*s.*; third Prize, 10*s.*

CLASS 284.—For the best and most complete Frame Hive for general use, unpainted. First Prize, 20*s.*; second Prize, 15*s.*; third Prize, 10*s.*

CLASS 285.—For the most complete and inexpensive Frame Hive for Cottager's use: unpainted. First Prize, 20*s.*; second Prize, 15*s.*; third Prize, 10*s.*

CLASS 286.—For the best Honey Extractor. First Prize, 15*s.*; second Prize, 10*s.*

CLASS 287.—For the best pair of Section Racks, completely fitted for use and interchangeable. First Prize, 15*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 288.—For the best rapid Feeder. First Prize, 10*s.*; second Prize, 5*s.*

HONEY.

All exhibits to which no price is attached will be entered in the Catalogue as 'Not for Sale.'

CLASS 289.—For the best 12 Sections of Comb Honey, gathered during 1892, the gross weight to approximate 12 lbs. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 290.—For the best 6 sections of Comb Honey, gathered during 1892, the gross weight to approximate 6 lbs. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 291.—For the best Exhibit of Run or Extracted Honey in Jars, not exceeding 2 lbs. each, gathered during 1892, the gross weight to approximate 12 lbs. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 292.—For the best 12 Sections of Comb Honey, approximate weight 12 lbs., gathered during 1891, or of any previous year. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 293.—For the best Exhibit of Run or Extracted Honey in Jars, not exceeding 2 lbs. each, approximate weight 12lbs., gathered during 1891 or any previous year. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 294.—For the best Exhibit of Granulated Honey in Jars, not exceeding 2 lbs. each, the gross weight to approximate 12 lbs. First Prize, 20*s.*; second Prize, 10*s.*; third Prize, 5*s.*

CLASS 295.—For the best and most attractive Display of Honey, in any Form, and of any year, staged on space 3ft. by 3ft., height not to exceed 4ft. above the table. The gross weight to be stated. First Prize, 50*s.*; second Prize, 30*s.*; third Prize, 10*s.* The Exhibits in this class to be staged by the Exhibitors or their representatives.

MISCELLANEOUS.

CLASS 296.—For any Useful Invention introduced since 1890. Special Prizes according to merit.

CLASS 297.—For the most interesting and instructive Exhibit of any kind connected with Bee-culture not mentioned in the foregoing Classes, to which Prizes have not been previously awarded. Special Prizes according to merit.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 510. Vol. XX. N.S. 118.] MARCH 31, 1892. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—The early weeks of March were cold and dull, with occasional snow-storms, accompanied by a quite wintry temperature and almost no sunshine, consequently bees have been kept indoors nearly the whole of the time; but as we near the end of the month the weather has become more favourable, the last few days being warm and quite summer-like. As one gazes around, however, it is plainly seen that vegetation is fully three weeks or a month behind its usual time. Not that there is anything to regret in the backwardness of the present spring, seeing that the inactivity of bees has, perforce, been shared by bee-keepers, and, consequently, there has been no inducement for beginning that too early stimulation to brood-rearing which not seldom retards rather than promotes the object sought.

THE ADVANTAGES OF A LATE SPRING-TIME.—The mysterious infliction known as 'spring dwindling' is rarely the cause of trouble in very backward seasons that it is known to be when the early months of the year have been warm, and when everything that grows is abnormally 'forward.' In what are known as 'late seasons,' bees remain quiescent for a much longer period of time than if the sun shines warmly and flowers bloom in February; and as a natural consequence, queens begin ovipositing slowly enough at first; but the progress made, if slow, is far more sure than if a warm couple of months at the beginning of the year are succeeded by a period of wintry cold, extending, perhaps, down to mid-May. In the latter case, it would appear as if the bees realise that they have been deceived into extensive brood-rearing by treacherous indications of a summer which is yet far off. After discovering their error, breeding diminishes, and, wisely or unwisely, adopting the adage, 'Once burnt, twice shy,' they are very slow indeed to start brood-rearing again with anything like their former vigour. Thus, after a mild winter and a warm February, we sometimes find stocks which had brood on four or five combs at the beginning of March, with less than a third that quantity at the end of April. Moreover, thousands of eggs are laid which are never allowed to hatch at all. The bees either eat these eggs or dispose of them in some other way; for the fact is known to experienced bee-keepers that numbers of eggs are seen in cells at such times which disappear altogether in a day or two.

On the other hand, after a hard winter and a late spring, it is found that bees, well provided with stores, breed up so rapidly when once a change in the weather takes place, that they, so to speak, 'never look behind them,' and there is no such thing as 'spring dwindling' under these circumstances. Past experience tends to prove that the best honey seasons are generally late ones; though there may be some slight disadvantage to those located in early districts. Our personal knowledge of the way in which a cold spring affects the prospects of bee-keeping in the South is too limited to be of much value, but in comparing the condition of our bees with that of the pasturage around, we find that one is just as forward as the other. If there be an advantage it is on the side of the bees, for while the latter are now breeding well, and we find in most cases bees on all combs, excepting the two outer ones, there is as yet no sign of bloom, or hardly even a swelling of the buds on fruit-trees in the many orchards around.

SPRING EXAMINATION.—Quite a number of bee-keepers, in the North at any rate, have a wise habit of deferring the first

thorough overhaul of their bees till the Easter Bank Holiday, but seeing that it occurs so late this year as April 18th, most readers in the South will, in common with ourselves, have gone over all colonies by the date on which these lines appear. The result of our own examination makes it apparent that bees have wintered well, with a moderate consumption of stores, and a death-rate considerably below that of last year. With rather less sealed brood than we should consider usual at this date in the South, bees are strong and, in the majority of stocks, far more plentiful than we are accustomed to see them in March; so there is good reason to suppose that stocks in southern counties will be in capital form by the time surplus honey is available for the gathering.

STIMULATING.—The most critical month for the bee-keeper is now at hand—indeed, it is the condition of his stocks at the end of April on which is likely to depend his season's success or failure; and in view of helping them on, stimulating—which we are so chary of advocating earlier in the year—is now not only advisable, but, in some of its various forms, absolutely necessary during the coming month. For instance, bees well fed in autumn will often be found at this time with their brood combs so filled with sealed food that less than a third of the cells are available for brood. If a portion of this sealing is bruised or scratched at intervals of a few days, the bees will remove the food to the outer combs, and the cells will be fully occupied with brood. This sort of stimulating is preferable to feeding with the same object, though, of course, only available under the conditions named. When food is short, a full pint of syrup must be given rapidly before slow feeding is resorted to; and the latter, once begun, should be kept up without any intermission till food can be had from outside. It is a fatal policy to keep bees at this time living from hand to mouth through the slow feeding bottle. A few pounds of food should always be in reserve as a safeguard against contingencies.

The above was written on the evening of the 26th, after a day of warmth and sunshine, with bees flying as freely as in June. To-day (28th) the ground is covered with snow, and the temperature has gone down something like twenty degrees. Verily, in this country we need to guard against contingencies of the weather, at any rate.

BRITISH BEE-KEEPERS' ASSOCIATION.

(*Continued from p.* 114.)

QUARTERLY CONVERSAZIONE.

The members re-assembled at six o'clock, when the chair was taken by Mr. Glennie, who briefly introduced Mr. Grimshaw, calling upon him to read his paper, entitled 'The simple eyes or stemmata of the bee: are they bull's-eye lanterns?'

Mr. Grimshaw then read his paper as follows:

You are, no doubt, aware that bees, in common with many other insects, possess, as so-called organs of vision, not only the two masses of compound eyes, but three single simple eyes, known as ocelli or stemmata, the use of which, in any insect, has not yet been discovered. If we can unravel this mystery, so far as the bee is concerned, we shall elucidate a dark chamber of knowledge in the physiology of very many other insects at the same time.

Many a time have I pondered over the why and wherefore of these three apparently useless, or perhaps aborted organs, to all appearance (judging by their structure) organs of vision. Why three only? Why placed on the top of the head, between the compound eye masses? Why rigidly fixed instead of being movable, arranged apart and in a triangle instead of being massed together? And, most important of all, why is the direction of their outlook *outwards* with two, and *upwards* or *forwards* (as the bee bends her head) with the remaining one, these directions being still further fixed by the arrangement of surrounding hairs? Chance at last threw me in the way of, I trust, contributing something towards a solution of these problems.

In October last I had to spend a night in the not over-cheerful town of Chesterfield. I went for an hour into a free reading-room, and, picking up a number of the *Polytechnic Magazine*, I found in it the following words:—'Many deep-sea species of fish have two sets of organs bored in their skin, consisting of round, shining opalescent bodies, very closely resembling mother-of-pearl; one set are large and oval, and are placed on the head not far from the eye. . . . All of them are abundantly supplied with nerves, and they seem to be organs for the production, and perhaps also for the perception, of phosphorescent light. If so, we may suppose that each such a fish goes about like a string of glow-worms or a train of lighted carriages, all the organs along his side shining faintly in the dark, somewhat after the fashion of luminous paint. Dr. Günther suggests that in certain cases the phosphorescence may be produced in a sort of back chamber of the organ, and then emitted in particular directions through the lens in front, precisely as a policeman flashes his bull's-eye on any suspected place.'

There is the whole thing, only substitute *bee* for *fish*. As the fish is in the darkness of the deep, so is the worker-bee in the gloomy recesses of the hive, cell-building, brood-feeding, &c., in what we have hitherto deemed Cimmerian

darkness. Has it not three bulls'-eye lanterns fitted with magnificent convex lenses, each lens firmly fixed so that the concentrated rays are focussed at such an angle that the light shines exactly on the cell sides and base? Thus the bee could only see certain points of light, to reach which, with the side-acting jaws at the point of the wedge-shaped head, would necessitate just such a planing and paring-down movement as would give us those admirable lines in cell-construction, which have been so persistently held up as marvels of mathematical precision. My conclusion is, that the three stemmata are not organs of vision in any sense of the word, but that they are three lamps emitting a seeming phosphorescent light which passes through the convex lenses, and is concentrated by them in a fixed arrangement of angles—a light certainly in minute proportions, but still, a sufficient quantity to be perceptible to the myriad facets of the compound eye.

Figuier (*Insect World*, p. 5) tells us that 'it has been remarked that most insects having this arrangement of eyes feed on the pollen of plants, and it has been surmised that the stemmata enable them to distinguish the parts of flowers.'

To this I would add, that such insects collect pollen and take it home to be used as brood-food in nests built underground, or in otherwise dark places, where such lanterns as I think they have on their heads would at least be highly desirable. Now, let us bear in mind all along that behind the bulls'-eye lens is a quantity of 'red-brown, sometimes black or blood-red pigment,' and also let us not forget, even in dead, old museum specimens of insects, how the stemmata gleam like little gems, with the same sheen of refracted light as one may notice on the coloured convex glasses of railway signal lamps.

There should be nothing outrageously startling in my theory, for we all know that many insects have the means of producing light of themselves, and of shedding it at will, either for their own guidance at night-time or else for the purpose of rendering themselves visible to future mates or enemies. Swinton (*Insect Variety*) gives a list of beetles, flies, moths, and centipedes which emit light from different parts of their bodies, as larvæ and as perfect insects, from head, or thorax, or abdomen, and he tells us that 'physiologists who have investigated the matter agree that this is generated by a soft yellow secretion,' and I wish you to notice that the brilliant lantern flies (*Fulgorellas*, genus *Otiocerus*) have a protuberance on, or prolongation of the forehead, from which it is said their light is emitted at night-time, and *the simple eyes are wanting*. We have then, without doubt, insects which produce and emit a so-called phosphorescent light from an appliance situated on the forehead of the insect, and that in some of them this structure takes the place of the simple eyes (in one genus of lantern fly there are two simple eyes only). Is it not a fair inference that such lantern is a development and union of the separate simple eyes, and this to such an extent that their concentrated intenser light is perceptible even to us? Is it not fair to deduce from the presence of the lanterns on the head of a bee, the presence of a light-producer *within*, just as we should argue the presence of an inner light-producer from an external examination of an unlit railway lamp? Besides, the desirability, nay, the almost absolute necessity of light to work by in the hive at night-time, requires the mechanism for light-production, *and here we have it*, complete, with its concentrating lens, placed, too, at such an angle that light emitted would be thrown just where wanted by the compound eyes. As for the light itself, I show that it exists in other insects.

Bearing these things in mind, let us see what Kirby and Spence say when speaking on luminous insects:—'Providence has supplied them with a luminous preparation or secretion . . . . which gives light sufficient to direct their motions, while it is incapable of burning.' 'They,' glow-worms, 'are said to put it out regularly between eleven and twelve every night, and they have also the power of rendering it for a while more vivid than ordinary.' There are nearly two hundred species of the genus *Lampyris*, probably more or less luminous.

We will now proceed with these authors to the Firefly, of which seventy species are known, marking well the statement that its light is given out by two transparent eye-like tubercles placed upon the thorax. How like the ocelli on the head of the bee! [More important than all, in support of my assumption, is the announcement that the ocelli on the wing-cases of a beetle (*Buprestis ocellata*) were luminous. Luminous centipedes (*Geophilus electricus*) are common in this country.] We will lay stress upon the fact that the whole genus of lantern flies (according to K. and S.) 'have the material which diffused their light enclosed in a sub-transparent projection of the head.'

On November 12th I took a frame of bees, accompanied by their queen, and contained in an observatory, into a photographer's dark room at night-time. I was provided with a large hand-magnifier and an opera glass. Keeping my face as close to the glass as possible for fully three-quarters of an hour in all, the evidence I obtained was not near as positive as I could have wished, nor was it of an entirely negative character. I had expected too much. I expected quite a glow of light from so many bees, or, at least, that I should see distinctly the beacons brilliantly shining on the head of every bee. I had time, however, in my disappointment, to reflect that, as the simple eyes are themselves microscopic, the gleams of light (if any there were) should be nearly, if not altogether, invisible to the eye assisted only by a hand-magnifier. Careful and intent watching gave me ultimately some crumbs of comfort. I saw, or fancied I saw, at odd times a faint spark of light, somewhat similar to what would be seen if a card perforated by a single hole were passed over some not over-bright luminous object. In my eagerness to gain evidence confirmatory of my theory, I came

to the conclusion that such gleams resulted from a direct ray passing from a single ocellus through the focus of my hand-glass. On one occasion, when I exclaimed to my companion (Mr. W. Dixon, a well-known practical bee-keeper), he also saw the spark I alluded to. Let us think that the worker-bee is possessed of altogether 12,600 minute eyes, each one the most diminutive telescope the mind can conceive of. What an exceedingly small beam of light would be sufficient to enable the bee to see the surface to be worked upon, always supposing the bee makes a free use of the antennæ in its ordinary routine about the hive. Again, it is not an unreasonable conclusion to come to with regard to the tactile hairs projected from between the facets of the compound eyes, that their true office is to give a regulation focus at which the eyes may do their work by the aid of the lights proceeding from the stemmata. I cannot think of the bee blundering about in intense darkness, doing its most important work without the power of using its eyes, and trusting to these so-called buffer-hairs for the protection of the compound eyes, as though there were no such things as antennæ. In my experiments with live bees under the microscope, I have not succeeded, as yet, in getting the bee's head steady enough to give me results from the short focus required to see the simple eyes. I am of opinion that bees, like the glow-worm, 'have the faculty of extinguishing or concealing their light, a very necessary provision to guard them from attacks,' &c.; that it is only when actively engaged in the quiet stillness of night that light gleams from the simple eyes, and also that, on disturbance, or in winter, or when not actually at work, the light, not being required, is not used; hence my difficulty of obtaining it in my experiments.

The more I read or think on this subject, the more amazed I am that we have left the bee for so long out of the list of light-emitting insects. I may here mention a few more of the light apparatus named in the chapter on Luminous Insects by K. and S.:—A dim phosphoric light emitted from the singular hollow antennæ of a pausus; and in the eyes of some moths; from the bodies of some caterpillars. A male cricket is said to give out light. In fact, these authors come to the conclusion that some insects are luminous which hitherto have been thought not so, and that the *Ignis fatuus* (will-o'-the-wisp) itself is probably caused by luminous insects flitting about over their marshy haunts. The source of the light shed by the insects already named is said to be a pigment placed under a thin film of skin, or contained in oval sacs similar in shape to the ocelli of insects, this light being controlled apparently at the will of the insect. It has also been observed (and I want to draw particular attention to this) that in the case of glow-worms the quantity of light is in proportion to the respiration of the insect, becoming extinguished or lit up by opening or closing the nearest spiracle.

I think I analogically prove the three simple eyes of the bee (and probably of other insects) to be organs of light placed near to, and as accompaniments to, their organs of vision; that being (like so many more) workers in darkness they need light; that many insects have it; that the bee has apparatus for its production wisely and beautifully placed where of greatest use, not forgetting that the use of stemmata up to the present has not been discovered; and I feel I have some right, in conclusion, to ask those who do not agree with me to give me, instead of my own, a better theory of their own, with even a decimal of reasonable evidence (whether this be actual or analogous evidence) of luminosity in eyes generally.

The Chairman thanked Mr. Grimshaw for his exceedingly interesting paper. At present he could hardly express any opinion on the theory set up. No doubt there was a great deal of luminous emission from insects; many of those present had probably seen it when walking through dark woods. The firefly was a case in point. If Mr. Grimshaw could several times repeat his experiments with the comb in darkness, and relate the result of such investigations, their judgment in the matter would be much assisted.

Mr. Blow thought the paper a most interesting one. When it was remembered that Mr. Grimshaw had performed his experiment at the worst season of the year, one might believe it possible that, when the summer arrived, a very sensitive photographic plate held against the comb of bees would show some light effects. It was well known that those plates were much more sensitive to light than human eyes.

Mr. Andrews, Mr. Meggy, and others continued the discussion, one gentleman suggesting that the stemmata were perhaps concentrating reflectors, instead of lanterns, so as to reflect and magnify the light.

Mr. Harris thought that if each individual bee had these three phosphorescence-emitting apertures, a crowded hive of bees, containing, say, 60,000 tiny lamps, ought to emit sufficient light to be visible in a dark chamber. The highest authorities had stated that the stemmata appeared to have precisely the same construction as each separate eye of the compound eyes, a fact which, of course, told against Mr. Grimshaw's theory. It appeared to him that with the compound eyes bees did not very accurately see many inches before their heads, and it might be that the simple eyes had a function of beholding objects at a distance. He did not feel convinced by the analogies which ranged from fishes' eyes to cats' fur. With regard to the necessity of light for working in the dark, he saw no reason why they should not believe that the antennæ, which were highly delicate and sensitive organs, did not answer all purposes.

Mr. Cowan was much obliged to Mr. Grimshaw, and greatly interested in the subject of his paper. He said it was generally believed that the simple eyes were intended for short vision, and had a short focus. He would not like to say positively, but he did not believe they were organs of light. It was very difficult

to compare the eyes of insects with those of fishes, because of the difference in structure; but, in some fishes there were found structures which were light organs. He could mention a crustacean, called *Euphausia*, which had ordinary compound eyes and two luminous organs just below. Claus considered them real eyes, but Sars thought they had no power of eyes at all, their structure being entirely different to the ordinary eyes. They consisted of a round mass producing luminosity, and a lens coming just under the ordinary eyes, and acting like bull's-eyes, to reflect light on anything in front of them. An allusion had been made to a fish, and Dr. Günther's description of that fish. In the *Challenger* reports there was an account of it. It was well known that the ocean at 200 fathoms depth was perfectly dark, and there were a number of fishes of different colours in those parts which would have no use for their colours if they were not seen. Some of these fish—for instance, *Photichthus*—had luminous eyes, situate below their other eyes, which they could use in just the the same way as the crustacean he had quoted; besides that they had a row of such organs on either side of them. There was another fish, called *Scopelus*, which has a couple of such organs at its tail. It was easy to imagine that, in the event of such fish being pursued, it was useful for it to be able to flash a light at its enemy, and perhaps frighten the pursuer. Then there was the angler-fish, which was able to dangle about a kind of fishing-rod, with a red filament at the end, by which it could flash a light, and by that means attract other objects, and so gain its food. All those cases were interesting, but did not help to a decision as regarded insects. As regarded the simple eyes and the power of vision, it was difficult to compare animal with human vision. It was stated that the shrillest sound perceptible to the human ear was equal to 40,000 vibrations per second. The next vibrations perceptible were those that produced the red colour, and were 400 millions of millions of vibrations. Between those there was nothing that could be conceived by human beings. Of course it was possible that insects could perceive something between those, and might have other sensations not possessed by us. Sir J. Lubbock found that ants were sensitive to ultra-violet rays, while man was not; therefore it was possible that insects saw colours differently to ourselves. Human beings could not compare their senses with those of insects. Several experiments had been made to ascertain the use of the simple eyes and compound eyes. Forel had varnished the compound eyes of flies, and found they could not see at all, showing that the ocelli were not necessary for sight; and whenever the compound eyes were varnished, the flies would tumble on the ground or fly about in different directions, finally rising upwards and disappearing. It was also found that, if the simple eyes were covered, bees, ants, and wasps could find their way about perfectly well, that was, the simple eyes were not necessary for vision. Sir John Lubbock carried on some experiments with spiders, which have only simple eyes. He found that those eyes were bad visionary organs, for he removed the egg-bag in one case and placed it only a few centimètres distant, yet the spider would pass quite near and not find it, and it was only when the spider was placed so as to feel it that its presence was discovered. In the second experiment the spider did not find it at all. That seemed to prove that the simple eyes were not of much use for distant vision. The convexity of the lens tended to show that the vision by the simple eyes was very short, probably not exceeding five centimètres. Plateau had shown that the simple eyes existed in insects which had to get their living in the dark. Night moths had simple eyes, whilst butterflies that flew in the day, with the exception of the genus *Pamphila*, were without them. That was in favour of Mr. Grimshaw's theory. Müller came to the conclusion that simple eyes were destined for near vision and for vision in the dark, so that bees might have perceptions that man had not, and they might be able to see in the dark without necessarily possessing bull's-eye lanterns. He (Mr. Cowan) had given both sides, and hoped that Mr. Grimshaw would try some more experiments; and he had much pleasure in tendering that gentleman his best thanks for his interesting paper.

Mr. Grimshaw wished he had asked Mr. Cowan to introduce the subject, as the remarks they had just listened to told very much in support of the paper. Mr. Cowan had instanced a kind of shrimp, which was endowed with bull's-eye lanterns, and he could not but think, in spite of the smiles he observed, that, if it could be shown that an animal belonging to the order *Annulosa* was able to emit light by bull's-eye lanterns because it had the necessity for such light, then his theory was not at all unreasonable. With regard to Mr. Harris's remark, that 60,000 lanterns should show some appreciable light, he would ask that gentleman to look at the matter from the following point of view:—If he were at the top of some high building in London at night-time, and the same number of policemen were examining into holes and corners with their lanterns, he would see little or nothing of the light shed, because it would not be diffused into space, but would shine directly on the object under scrutiny. He (Mr. Grimshaw) did not suggest that the bee used the light whether wanted or not, but that it had the power of turning the light on or off at will. He thought the construction of the stemmata was not exactly as Mr. Harris had described it. If one took a section of the stemmata, it was found that, instead of a protuberance, there was a concavity, and opposing that a convex or lens.

At this juncture Mr. Glennie was obliged to leave the meeting, and Mr. Cowan afterwards presided.

Mr. Grimshaw, continuing, said that the stemmata, supposing them to be bull's-eye

lanterns, were placed in the exact position necessary to shed light to the best advantage for the compound eyes. In conclusion, he was much obliged for the kind manner in which his paper had been received.

Mr. Wells, of Aylesford, Kent, then explained his 'New Method of Working Bees,' a report of which will appear next week.

The newly elected Committee of the British Bee-keepers' Association held a special meeting in Wednesday, 23rd inst. On the recommendation of the Educational Sub-Committee, it was resolved that the names of those experts who had passed an examination on the knowledge and treatment of foul brood be marked with an asterisk in the report, and that a special examination in this subject be arranged to take place on the 19th and 20th of October next.

The Committee approved a syllabus for the use of lecturers, resolved that the same be printed in the second edition of the Committee's report. The Chairman reported that Messrs. Newton & Sons would prepare a complete set of slides, to accord with the syllabus agreed upon, and that no expense or trouble would be spared in making them as complete as possible.

THE 'MARSHALL' FUND.

Since the announcement of last week we have received the following:—

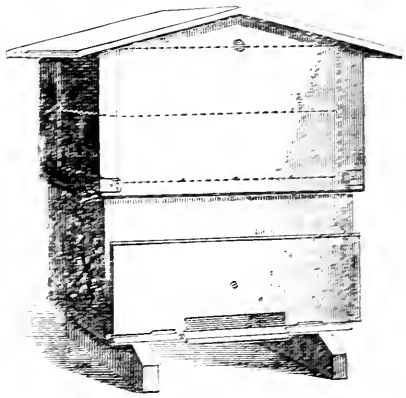
	£	s.	d.
H. W. A. (Thorne)		5	0
Jesse Garratt		5	0

Which brings up the total amount subscribed to 16*l.* 15*s.* 6*d.*

HIVES FOR THE HEATHER.

Robinson's Heather Hive.

This is an essentially heather hive, and it was much admired at the Stirling Show, Mr. R. Robinson, of Hawick, carrying off with it the first prize in that class. The hive is single-walled, but the lift slides over it, so that in winter it can be made double-walled. The body-box takes eleven frames with metal ends, and the two sides and front project an inch above, so that the crate of sections which is made to slide over can be kept in its place. The crate has a piece in front corresponding to the width of the frames, with a quarter-inch of its depth cut out, so that when the crate is pushed forward from the back, it passes over the bees without crushing any. When the crate is in its place, a hinged flap at the back is turned up, and keeps it steady. One or two crates can be used, and the roof slides right down upon them, and is secured by screws at the sides. In this way they are firmly fixed, and cannot move during transit. One crate can be as well fixed as two, for the roof slides down telescope fashion. The floor-board is fixed to the body, and so are the bearers beneath. The alighting-board is hinged, and has an oblong aperture cut right through the wood, this aperture being covered with perforated zinc on the upper side. A strip of wood, the thickness of the lift, is fastened in front of the hive, and this answers two purposes. First, it is arranged of such width that it allows the lift to slide down to a certain depth, and no further; second, it permits the alighting-board, when turned up, to be screwed against it without interfering with



the movement up or down of the riser. When about to be sent to the heather, the slides are drawn out the full width, and the alighting-board is turned up and fastened by a screw (as shown in the illustration above). Two pins in the alighting-board keep the slides in their place, and the perforated zinc allows of the ventilation at the entrance. The roof is also screwed down, and everything is made ready for travelling, the insertion of the several screws making all secure. On arrival at the heather only one screw has to be withdrawn, and the alighting-board loosened, when the hive is ready for work. The ordinary frames are used with the projections cut down to make the whole thing more compact. We shall be glad to hear more of this hive after it has undergone trial at the heather.

LECTURE ON BEES.

A technical education lecture was recently given by Mr. Ed. Durrant, in the Public Hall, Maldon, on 'Bees and Bee-keeping.' The Mayor presided, and said that technical education meant teaching something about things as well as books. It had for its object the bringing of science to the every-day life and homes of the people. There was much to be learned from the industrious little insect, the honey-bee, and he hoped the result of the lecture would be that greater interest than ever would be taken in bee-keeping. 137,000*l.* worth of honey and wax was imported.

into this country in one year. These things might be just as easily produced in this country, and the money now paid away to foreign countries would go into the pockets of cottagers and rural labourers.

Mr. Durrant then delivered his lecture, which was illustrated by magic-lantern slides, and numerous appliances and apparatus necessary for bee-culture. Mr. W. Debnam, expert to the Essex Bee-keepers' Association, manipulated the lantern, and at the close of the lecture the Mayor invited any one among the audience to ask any questions he wished information upon relating to bees and bee-keeping, stating that Mr. Debnam and the lecturer would be pleased to answer them. A number of questions were asked Mr. Debnam on the habits of bees, their functions, &c., by Messrs. J. C. Freeman, Hughes, and Moss, all of which were answered by him in a very satisfactory manner. Two very fine microscopes, lent by Mr. E. P. Gutteridge and Mr. Kelsey, together with a collection of microscopic objects, were also placed at the disposal of the more interested of the audience. There was a large attendance, and the lecture appeared to be much appreciated.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[984.] We have now reached the end of March one of the coldest and driest on record: no doubt farmers have had a good seed-time, since the frost has been out of the ground so that they can work it. An old proverb says that 'A bushel of March dust is worth a king's ransom,' and we have an abundance of it in the fields hereabouts—enough to ransom many kings. The fields of grass are particularly bare at present, so that the look-out for the honey-bee is not very promising: even the hardy dandelion is barely out of the ground, and in the woods the wild anemone shows no signs of flower yet. The wych-elms are loaded with blossom, and I noticed a few bees around them to-day gathering the pollen. The weather during the past week has been so cold the poor bees have not been able to venture forth. I have given artificial pollen, which was accepted before the skeps were out of my hands, the flying bees taking to it as though to the manner born: really one would think it must be some of the same bees that worked in the shavings a year ago, but that we know is impossible. Drinking fountains are also visited by thousands of bees when the temperature is high enough for them to fly: the 18th and 19th, two nice, warm days, the apiary was a merry hum.

Mr. Wright (981, p. 116) will reach the right method of extracting wax if he perseveres. After his first melting he should have scraped off the dross at bottom of the cake of wax, and re-melted with, say, a pint of water; then, when it was melted, poured the lot into a basin, and let it stand till cold, when another slight scraping would have left him a cake of pure wax ready for market.

Our friends at the Antipodes have just secured a good harvest of honey. The *New Zealand Bee and Poultry Journal* for February says:—'The present season promises to be the best for many years. News received from some of the largest apiaries throughout New Zealand confirms the fact of a good season.' It seems strange to read that in February the 'drones are slaughtered, and the swarming season is over.'

A writer in the *Hunter River Bee Bulletin* (New South Wales) gives the price of honey as from *3d.* to *8d.*, according to quality and 'put-up,' and also a method of using phenol for foul brood, which I do not remember seeing before. 'Take a small phial, about an inch long, put into it some crystals of the best commercial carbolic acid (not necessarily absolute phenol), and put in a cork, with a hole through it: then hang the bottle in the cluster near the top of the brood nest. The heat of the bees evaporates the acid, and it permeates the whole hive.' He also gives a cure for the bee-paralysis (*Bacillus depilis*) by the McLain remedy, as follows:—'To three pints of soft water add one pint of dairy salt: use an earthen vessel: raise the temperature to 90° Fahr.: stir till the salt is dissolved: add one pint of soft water boiling hot, in which has been dissolved four table-spoonsfuls of bicarbonate of soda: stir thoroughly while adding to the mixture sufficient honey or syrup to make it quite sweet, but not thick: dissolve a quarter of an ounce of pure salicylic acid in one ounce of alcohol, and add this to the mixture while still warm, and, when thoroughly stirred, allow it to stand till cold.'

I should think Mr. Wilmot's (983, p. 48) plinths could not have been waterproof, for water to get to his packing. I have some Woodbury chaff hives, and those without plinths to carry off the rain that runs down the outsides of hives in a driving rain get wet, some two inches of the chaff being saturated, but those that have arrangement to carry off the water below the hive-stand or floor-board are always dry in the spring.—W. Woodley, *Wick's End, Newbury.*

PRESENT CONDITION OF BEES.

[985.] I have just examined seven out of my nine stocks of bees, and should like to tell you how I found them, and would be obliged for any advice or remarks you might make thereon. I opened them on Monday, March 21st, for the first time since October, 1891, when I covered them up for the winter. No. 1 is a Ligurian stock, and No. 2 black crossed with Carniolan, and the rest black.

No.	Seams of bees.	Stores about	Size of brood nest.
1	4 or 5	12 pounds	On 1 frame
2	4 or 5	10 ,,	,,
3	4	10 ,,	,,
4	8 or 9	20 ,,	On 3 frames
5	4	12 ,,	On 1 rame
6	3	7 ,,	,,
7	3	7 ,,	,,

Numbers 6 and 7 were two small lots of driven bees I had given me last autumn. I found in all the hives what appeared to be some fresh-gathered honey. 1. Could this be honey of this year? The combs were all clean and healthy-looking, and each stock had brood in all stages, some bees just hatching out. I fed all of them with more or less syrup in the autumn. The Ligurian queen I introduced the beginning of last September and a few black bees are still left. 2. Would you advise feeding any syrup while there is a fair supply of stores in the hives? I only began bee-keeping last spring, and have obtained most of my information from your *Guide-book*.—E. C. R. WHITE, *Woodford Mills*.

[1. It is not likely to be anything more than the food prepared for present use. 2. With the weight of food as stated the bees may be allowed to use up a portion before being supplied with syrup. Refer to 'Useful Hints' on another page.—EDS.]

WAX-EXTRACTING.

[986.] I think W. Wright (981, p. 116) must have made the holes too large in his tin box, and so the *débris* escaped through; the holes should only allow a pin to pass through; not all over the bottom of the box, only a circle covered with holes in the middle, say the size of the top of a breakfast cup. I pierce mine with a fine gimlet from the inside; this presses out the bottom a very little, and the melted wax runs into it. The box, with its lid on, should remain in a moderate oven about twenty minutes, placed on a basin half filled with water. If there is still a little dross on the under side of the cake of wax, tie it up in muslin, put it in the clean box again, and proceed as before. A tin milk-strainer, which has a small circular piece of strong closely woven wire-cloth at the bottom, used instead of the box, would answer well.—BEESWING, *Carlisle*.

WINTERING A DRIVEN STOCK IN A SKEP.

[987.] In the second week of September last I was asked to drive a stock of bees. I did so, and, not wishing to bother with uniting to another stock, I resolved upon an experiment. Instead of domiciling the evicted insects in a frame hive, I just allowed them to remain in the skep into which they had been driven, and put on a large feeder over the small hole (scarcely more than an inch in diameter) in the crown, and gave them about twenty pounds of syrup. This was taken down in about ten days, when the feeder was removed. Early in January a two-pound cake of candy was placed over the feed-hole.

Now these bees ought, according to the dicta of experienced bee-keepers, to have died during the winter; or, failing that, then surely theirs should have been a case of spring dwindling. The building of comb in the middle, and thence towards the end of September, merited the latter punishment at any rate. They have, however, neither died outright nor shown any sign of spring dwindling. On the contrary, judging by the prodigious rate at which pollen is being carried in, these bees are intent upon rapid spring building. This venture has turned out such a success, that I shall feel tempted when autumn comes to renew the experiment with an additional number. Lest any bee-keepers should follow my example, it would be well that I should explain that I gave this trial stock more protection than is usually accorded to stocks in skeps. The skep was placed in an empty frame hive, the spaces between the former and the latter being filled with sawdust. Some loose packing on top and the cover over all made things snug. During feeding the feeder was kept as warm as possible. The driven stock, I should mention, was only of average size, and the location of its new home but half a mile distant from the old one.—J. MORGAN, *Pontypridd, March 26th*, 1892.

[We are very pleased to hear of the success of our correspondent's first experiment in wintering driven bees, and hope to be favoured with the results of his future operations. In view, however, of his becoming too sanguine, we must remind him that the same view has been held by bee-keepers in the past, until experience has proved the truth of the adage, 'Bees do nothing invariably,' and wintering under such conditions is not by any means a general success.—EDS.]

INTERNATIONAL FRUIT AND HONEY SHOW.

[988.] I am pleased to notice from the *B.B.J.* we are going to have during the season of 1892 an International Show. There can be no doubt the time of the year it is proposed to be held will be suitable for all bee-keepers, no matter where located; and this show ought to bring together the finest collection of honey ever seen

in Britain. I think the B. B. K. A. ought to augment the prize list by offering, in addition to the money prizes, say, three or four silver medals in the honey classes. I would also suggest that the gentlemen appointed to adjudicate should be representative, and, to my mind, the following are amongst our best honey judges: England, ——; Scotland, ——; Ireland, ——. I trust this matter will be well debated, and the judges' names published before the show comes off.—JOHN D. MCNALLY.

[We omit the names of the three gentlemen chosen by our correspondent, and trust he will recognise the wisdom of our action in view of the dissatisfaction which would inevitably arise from the publication of names selected by intending exhibitors.—EDS.]

PLANTS FOR BEE-FOUNTAIN.

[989.] Instead of plants, as mentioned in 982, p. 116, I have found pie-dishes, half filled with water slightly salted, and covered with floating discs, cut very thin, from old wine corks answer admirably. New corks would be cheap enough. About one dish to three or four hives. It would require more water almost every day in very warm weather, as it evaporates, as well as being often covered with bees drinking and carrying it into the hives. The corks will last one season, or more if scrubbed with salt and water and put away to dry.—BEESWING, *Carlisle.*

BEE ASSOCIATION FOR SUSSEX.

[990.] In a letter which you kindly inserted in the *Journal* last October, I suggested the formation of a Bee-keepers' Association for Sussex. I now beg to thank all those who have written to me offering to become members, but regret to say that scarcely sufficient promises of support have been received to allow the suggestion to be carried into effect this season.—C. BRERETON, *Burton Rectory, Pulborough.*

Queries and Replies.

[499.] *Ants in Hives.*—1. Will you oblige me in your next issue of *Bee Journal*, by telling me how I can best keep black ants or 'emmets' out of my hives? Every summer they bother the bees and myself. 2. Will the honey-getting powers of my bees be increased if I put a Ligurian queen into hives of ordinary English black bees?—H. G. C., *Staines.*

REPLY.—1. A writer in the April number of our monthly, the *Record*, says:—'A simple, effectual way of keeping ants out of hives which stand on legs is to rub the legs well with common soap, so as to leave a film of dry soap on the surface of the wood. Should both wood and soap be too dry, the wood may be damped first. If heavy rain washes the soap away, it may require to be renewed. It is also well occasionally to saturate the surface of the ground for some inches around the legs of the hives with thick soapsuds. Ants, being strongly acid, greatly dislike all alkalies.' 2. Seeing that many of our best bee-keepers claim that the native black is the 'best all-round bee,' we cannot undertake to promise any better results from the introduction of foreign races.

[500.] *Size of Frames for Surplus Chambers.*—My four stocks have wintered well, and for the coming season I have made lifts or surplus with frames same depth as in the brood chambers below. Am I right in this, and will the thin super foundation do for them, or must I have brood foundation?—W. WRIGHT, *Stony Stratford.*

REPLY.—Most bee-keepers prefer to use shallow frames in surplus chambers for extracting purposes, but of course standard frames may be used. Thin super foundation is not suitable for extracting frames.

[501.] *French and English Weights and Measures.*—1. Would you please change the weights and measures in the recipe for making hydromel, according to M. De Layen's plan, given on p. 196 of *B.B.J.* for 1891, from the metric to English? 2. Please say where the essence of juniper berries can be got.—H. SMITH, *Ayrshire, N.B.*

REPLY.—1. It is a simple sum in arithmetic to convert—

1 gramme	=	·35 ounces.	
10 grammes	=	·035 „	
100 „	=	3·35 „	
1000 „	=	35·27 „	= 2·20 lbs.
1 litre	=	about $1\frac{3}{4}$ pints.	

2. Extract of juniper can be got through a chemist.

[502.] *Transferring to Frame Hives.*—As a new reader of the *B.J.*, and a novice at bee-keeping, I should be greatly helped by a little advice. 1. I have two straw skeps, the bees of which I wish to transfer to frame hives; when is the best time to do it? 2. Instead of cutting the combs out of the skeps, and fitting them in the frames, I have been advised that it is a good plan to drive the bees and queen from the skeps, and hive them in the frame hives on full sheets of foundation; then put a queen-excluder on top of frames, and the old skep on top, so that the bees will hatch the brood out, and I can then take the old skep away later on. Is that a good plan? I have carefully read the *Bee-keepers' Guide-book.*—NOVICE, *Ryde, I. W.*

REPLY.—1. The best time for transferring bees and combs from skeps to frame hives is as soon as the weather becomes warm and settled in early summer. 2. The plan you propose to follow has been tried, and not seldom ends disastrously, seeing that the bees will pass through the excluder to take care of the brood, while the poor queen is left to worry herself to death in her vain efforts to join them. If you wish

the bees to transfer themselves to the frame hive, as stated, use no excluder at all, but allow them to work down into the lower chamber as room is required. The skep will then become the surplus chamber, and may be removed, with the honey it contains, later on.

TRADE CATALOGUES RECEIVED.

W. P. Meadows, Syston, near Leicester.—Mr. Meadows contents himself with a *re-issue* of his exceedingly well got-up Catalogue of last year, and inserting loose extra sheets, with descriptions of such novelties as he has brought out since the spring of 1891.

C. Nye & Sons, 1 Western Street, Brighton, send a good list of 36 pages, with numerous good illustrations. It bears a familiar look, and everything in it is fully up to date.

A. W. Harrison, Potters Bar. (32 pp.)—This is a new name among appliance dealers. The list before us, however, is very complete, full of good illustrations, and well worth perusal.

Chas. Redshaw, South Wigston, Leicester.—This is a very full and complete list of bee-goods, and includes several things besides. As a well-known exhibitor at the leading shows, Mr. Redshaw adopts the plan of naming many of the articles after the shows at which prizes have been awarded to them, and this considerably assists purchasers in selecting. In every successive issue of the above list we are sure of meeting with some excellent and useful novelties not included in previous ones.

We notice that many manufacturers now make a small charge for copies of their catalogue, and deduct the amount from the first order—an arrangement few will complain of, considering the large sums spent in preparing full lists of goods.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. TAYLOR, JUN.—*The Right of Destroying Trees.*—If the owner of a tree, forty or fifty feet high and growing on his own land, refuses to cut it down at your request, you must put up with his refusal, no matter how much it may hinder the flight of your bees. To destroy the tree would render you liable for damages.

DROSORD.—Comb sent is affected with foul brood.

*** QUEENS FROM ITALY.—*In consequence of the death of M. Bianconcini, it is requested that all orders for queens be addressed to his daughter, Miss E. Bianconcini, Bologna, Italy, by whom they will be sent as usual.*

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

The sudden outbreak of glorious summer, with which we have been favoured for a week past, impels us to insert a word or two of addition to our 'Hints' of last week by way of caution as well as encouragement to readers. After a month of March the like of which for cold has, we believe, only been equalled once during the last thirty years, we have now had several days in succession of quite June-like warmth, and bees are going ahead at such an extraordinary pace —in the South, anyway—that some of our more ardent spirits may be doing harm if not warned in time. What we desire readers to note is, that if stocks have already been thoroughly examined, and everything needed for their welfare has been seen to, they should not be interfered with at all. Moreover, the more energetically the bees work the more need for non-interference with the now rapidly extending brood nest.

The sight of bees labouring, as our own are just now, when the widened doorways hardly afford room enough for the crowds of busy, pollen-laden workers, rushing pell-mell over each other in their haste to unload and be off again, may well lead the inexperienced beginner into injudicious acts not tending to their well-doing; and it is to these, whose heads are not yet kept 'cool' by the wisdom gained of experience, that we address a word of warning. Every good bee-keeper desires to help on the bees whenever he can, but the best of all help at the present time, and under the circumstances named above, is to leave prospering and well-stored colonies severely alone.

On the other hand, whenever there is the least uncertainty, either as to food or the internal condition of stocks, not an hour should be lost in attending to their wants. Neglect doing so, and work at the now busy doorway may suddenly be stilled, and the too-long-delayed inspection reveal the not unfamiliar sight to beginners, of bees and brood of good stocks perished for want of ten minutes' attention at the proper time.

MR. COWAN'S TOUR IN NORTH AFRICA.

By the time this issue of the *B.B.J.* is in the hands of readers, our co-editor, Mr. Cowan, will have passed through the first stage of his intended tour in North Africa. The journey has been undertaken with the object of removing, if possible, some uncertainties at present existing with regard to the bees of that part of the world. Mr. Cowan, who is accompanied by his daughter, has spent some days with a very old correspondent of this journal, visiting places of interest in the neighbourhood of Tunis, including most of the apiaries within reach, and, no doubt, adding something to our present knowledge of Tunisian bees. Leaving Tunis, he next proposes to wend his way to Souk-Ahras, then on to Bone, Guelma, and forward to Constantine. From thence the journey will be continued to Philippeville, then south to Batua, El-Kantara, and right onwards to Biskra—an oasis in the desert. Returning to Constantine, he next goes on to Setif, and from thence across the mountains to Tizi-Ouzou, if the route is practicable, otherwise the journey to the latter place will be made from Akbou.

From here our travellers make their way to Algiers, calling on as many bee-keepers from the long list to whom they have introductions, as they can *en route*, and whose acquaintance they hope to make. After leaving Algiers they go to Blidah, where Mr. A. Todd was stationed some years ago, and also to Corso-Alma to see Mr. Baldensperger; then on to Palaestro, to visit Mr. Tenillebois, who has been mentioned in the *B.J.* as sending African queens to Europe at ten francs each.

Mr. and Miss Cowan then leave Algiers for Marseilles, on their return journey, and we trust to see the travellers home again in June, reinvigorated in health and possessed of a fund of incidents of travel, as full of interest as was the relation last year of Mr. Cowan's 'Rambles in Savoy.' Having taken out with him his camera and a goodly supply of materials for photographs, we may hope for a series of pictures for reproduction in our pages, which will be equally interesting and useful to our readers.

BRITISH BEE-KEEPERS' ASSOCIATION.

Quarterly Conversazione.

(*Continued from p.* 126.)

Mr. Wells explained his system of working bees, which was to make a division in each hive by means of a perforated dummy, and place a colony with its queen on each side thereof. He commenced that method as an experiment in the spring of 1890, when he tried it with only one hive, holding sixteen frames. Dividing this hive by setting the perforated dummy in the centre of the hive, he placed the queen, combs, and brood of two colonies in it, one lot on each side of the dummy; and, when he saw how well the bees worked together divided in this way, the idea occurred to him to try what would be the effect of putting an excluder zinc on the top, and letting the bees all run together in the surplus chamber overhead. The result was that that hive gave by far the largest produce for the year 1890. Consequently, he made up his mind to winter two queens in every hive in 1891, and in preparing to carry out this idea he divided the combs, brood, and young bees of three stocks, which had swarmed, into nucleus colonies of three or four combs, one good queen-cell being given to each lot. After the close of the honey season one of these small colonies was—when the bees were prepared for winter—united to each of nine stocks, divided as already described. In the spring of 1891 he found they were all strong, with the exception of one hive, where one queen had died, and the other side was exceedingly weak, and therefore he had only eleven hives to work with. The kind of hive he used was very large; but, notwithstanding the size, they had to be tiered up more when the system in question was practised. He had been unable to prevent swarming in any hive excepting one; that one hive held twenty standard frames, and had, of course, two queens, and he had to keep on supering at the top of it. A crate of standard-size combs was put on top of the excluder zinc, and very soon a second was required, the latter having shallow frames, 5½ inches deep, and in a short time a third was necessary. The estimated quantity of honey produced by that particular hive was between 180 and 200 pounds. The other hives, where swarming took place, did not do so well, but the yield of some of them exceeded 100 pounds. With regard to the total quantity of honey obtained from his eleven hives—leaving out the queenless hive, which yielded nothing—the figures were as follows:—312 one-pound sections, and 1069 pounds of extracted honey, making 1381 pounds. He had worked principally for extracted honey. That, at 9*d.* per pound (although some of it sold at 10*d.* and 1*s.*), including 40½ pounds of wax at 2*s.* or 2*s.* 6*d.*, realised 55*l.* 16*s.* 9*d.* As against that, the year's expenditure amounted to 8*l.* 9*s.* 8*d.*, leaving a balance of 47*l.* 7*s.* 1*d.* If the total quantity of honey be divided by twelve, the average produce per hive would be found to be 115 pounds; if by eleven, as would be more correct, the average reached 125½ pounds per hive. In addition to that, he had had ten swarms. At the present time he had two hives with three queens in each, and one hive with four queens, and that day (March 16th) the bees were out very strong from every entrance. He disclaimed any intention of teaching the members present on a subject which they were far better acquainted with than he, but thought his results, obtained by simple means, were worthy of notice. At first he used a metal dummy, which, being a great conductor of heat, took away the warmth required by the bees, and he afterwards substituted a perforated wooden one, such as he now produced for inspection. Mr. Wells explained that he made all his own appliances, several of which had some point of originality about them, as would be seen by the samples handed round for inspection. He also exhibited some wax which had been turned out by his own extractor. Mr. Wells next proceeded to quote one or two facts, which appeared to tell strongly in favour of his system of working bees. A neighbour, whose bees were situate only about forty yards away from his own, gathered food enough for wintering on, but did not get an ounce of surplus honey. Another neighbour, about a quarter of a mile off, had three frame hives and six skeps; but he obtained no honey at all from them, and had to feed considerably. In both the above cases one queen only was kept in each hive. One remarkable circumstance was, that the crop of sainfoin from which his (Mr. Wells') bees gathered the greater portion of the honey was situated on the other side of his neighbour's grounds, and furthest away from his apiary, so that the bees had to fly over the ground where the hives that yielded nothing were placed, in order to get at the forage. And while the bees of the latter were doing almost nothing, there was a continuous stream of his (Mr. Wells') bees going to the honey and back again. He (the speaker) did not weigh his swarms; but he had no skep large enough to hold them. The present year he intended to work a crate of shallow frames on top of the other frames for brood, and allow the queen to go up, so that by giving additional breeding-space he might prevent swarming as much as possible.

Mr. Garratt said that Mr. Wells' success had been so great that, instead of destroying any of his surplus queens, he (Mr. Garratt) hoped that Mr. Wells would rather distribute them about among the other bee-keepers, in order that they might experience some of the advantages described.

Mr. Carr considered Mr. Wells' narration of the utmost value to bee-keepers, and though that gentleman had modestly disclaimed any intention of coming before them in the character of a teacher, he thought the teaching which resulted in so large a return of surplus honey was just the kind of instruction all of them needed. It occurred to him, however, to ask how the single entrance to each hive was divided, as the bees were, by the perforated dummy; there might be

danger from the queens, from 'balling,' if some precautions were not taken at the time of uniting the two lots.

Mr. Wells explained that the colony which happened to be in the hive was pushed aside when the dummy was fixed, and a nucleus put in on the other side. Most of the hives had sliding floor-boards, so that the floor-board could be dropped two inches, and a wedge-shaped piece was inserted below the dummy, which divided the hive down to the floor-board when the latter was lowered, so that the bees could go to their own side of the dummy or not as they pleased. One source of trouble he had not overcome was, that when one lot of bees started swarming, those on the other side of the dummy always followed suit, and so both queens came out with the swarms.

Mr. Carr and Mr. Blow agreed that the meeting was deeply indebted to Mr. Wells for being present and favouring it with his experience, which practically amounted to a revolution in the present system of bee-keeping. Just upon 130 pounds of honey per hive was a marvellous result, which was occasionally spoken of but seldom realised. Mr. Blow thought that if entrances were placed at the ends of the hive instead of being together, there would be less excitement when swarming took place.

Mr. Wells, in answer to a querist, said there was no need for any trouble with regard to spring feeding. He always packed up the bees with plenty of good food in the winter.

Mr. Soar and others continued the discussion.

The Chairman said they were always pleased to have a record of practical experience, and Mr. Wells' experiments showed what the most advanced apiculturists had always maintained, namely, that strong colonies produced the largest supplies. That was the secret of Mr. Wells' large honey production. While his neighbours' bees were not in a fit condition for work, Mr. Wells' were just in the proper state to gather the honey early in the season. Some years ago a good deal was said about the doubling hive, in which the division was made by perforated zinc. A hive of the kind was brought out by Lee, of Bagshot. He (the Chairman) had one in which the bees were working in the supers above, while the queens, separated by the zinc, were breeding below. He thought it would be interesting to have experiments made on the lines laid down by Mr. Wells, and he hoped bee-keepers would try the simple methods described and report results. If double populations could be obtained in spring it was an easy way of increasing the amount of surplus honey. He thought from the fact of having a perforated divider between the two colonies, that when one was likely to swarm the other from sympathy and excitement would have the same tendency.

Mr. Carr said that, as most of them knew, the plan of working double colonies is one super or set of supers was not new, but it was certainly novel to follow it out as Mr. Wells had done by preparing a nucleus colony to add to each stock in autumn. By doing so and removing the oldest queen each year, a constant succession of young queens would be secured. There would, he thought, always be great difficulty in preventing—and with Carniolan or Ligurian queens it would be impossible to prevent—swarming, while each queen had only seven frames for a brood nest.

A general conversation followed, in the course of which Mr. Wells explained further details in regard to bee-management in his apiary.

Mr. Blow thought that in hives holding a large number of frames there would be little difficulty in trying these experiments. The division could be made in the middle as Mr. Wells suggested, although the sliding floor-board would have to be dispensed with, and supers could be provided above; so that by the end of next season bee-keepers would know for certain whether the system should be generally adopted.

The Chairman said any number of frames might be added to the hives, and that sometimes it might be necessary to put on as many as thirty or forty. He found he could keep the queen very well on twenty frames, and in that way prevent swarming. That was quite sufficient breeding-space for any queen. At the end of the season the bees hatched out, and went down by degrees.

Mr. Garratt said that the warmest thanks of the meeting were due and should be tendered to Mr. Wells for coming there as a stranger and giving the benefit of his investigations and experience. His descriptions were very plain, and he hoped would be a boon to bee-keepers.

The sentiments conveyed by Mr. Garratt were heartily approved by all present.

Mr. Wells had no idea his remarks would be of so much interest; but thinking his management by simple means had been pretty successful, he determined, if possible, to explain it. He was very thankful for the kind way in which he had been received, and abundantly repaid for any trouble he had taken.

The meeting then closed.

NORTHAMPTONSHIRE BEE-KEEPERS' ASSOCIATION.

By way of disbursing the grant from the Technical Committee of the County Council, this Association has made arrangements for the delivery of a series of lectures on the best methods of bee-keeping. On Friday evening, April 1st, Mr. Edwin Ball delivered the third of the series in the Ecton Board School, to a fairly good audience. The lecturer spoke of the preparation of hives (skeps and frames) for swarms, and the various ways of hiving. In the course of his remarks, he introduced the subjects of quieting and handling, and the life-histories of workers, drones, and queens, pointing out the practical importance to bee-keepers of a thorough acquaintance with bee-life and

structure. At the close of the lecture questions were invited and answered, and a lively discussion between 'skeppists' and 'framists' regarding the merits of the two kinds of hives sprung up and was maintained for some time. The proceedings closed with a vote of thanks to the lecturer and to Rev. F. W. von Ellrodt, who kindly took the chair.

The first lecture of the series was delivered at Weston Favell, and the second at Moulton, by the same lecturer.—ROBERT HEFFORD, *Hon. Secretary, Northants B.K.A.*

HEREFORDSHIRE B. K. A.

We have had a grant of 50*l.* apportioned to us by the Technical Education Committee of the County Council. We propose to utilise it by a lecturing tour with a bee-van.—ALFRED WATKINS, *Hon. Secretary, Hereford, April 2nd.*

BEE LECTURES IN YORKSHIRE.

The second of a series of free fortnightly lectures on bee-keeping, arranged under the auspices of the West Riding County Council, was delivered at the Yorkshire College, Leeds, on Friday week, by Mr. R. A. H. Grimshaw, of Horsforth, secretary of the Yorkshire Bee-keepers' Association. Having given his hearers some idea of the outlay involved in commencing bee-keeping, the lecturer said that though, as a hobby, it might be made to pay well, like poultry-keeping, bee-keeping could not be relied upon as a means of earning a livelihood, for the climatic conditions in this country were such as to cause fluctuation in the quality and quantity of honey produced. From an amateur's point of view, however, he would impress upon his hearers that a hobby, to be successful, must be followed with enthusiasm. Every hobby followed enthusiastically, whether financially successful or not, yielded a certain amount of enjoyment, and had an influence on the mind of the hobby-rider. For its good influence on the mind, by the perseverance and study involved, no hobby—except, perhaps, the study of botany—equalled bee-keeping. The lecturer then proceeded at length to instruct his auditors in the care and treatment of bees, and indicated the best methods of obtaining the most satisfactory results.

THE MARSHALL FUND.

We have received the following letter from the widow of the late Mr. Walter Marshall, which explains itself:—

'DEAR SIR,—I beg to offer my sincere thanks to you and the ladies and gentlemen who have shown such kindness and sympathy to me in my recent bereavement.

'The money which has so generously been given for my help will, I trust, with earnest perseverance on my part, be of lasting benefit to myself and children.

'Remaining your grateful servant,

'MARY E. MARSHALL.'

27 *Sunny Hill Road, Hammerfield.*

It may also be said that the fund has been invested in the Post Office Savings' Bank in the joint names of Mrs. Marshall and of a well-known resident of Hemel-Hempstead, who, at our request, has kindly undertaken the trouble involved. This gentleman writes under date of April 1st as follows:—

'I am in receipt of your cheque 16*l.* 17*s.* for Mrs. Marshall, and I will see that it is carefully laid out for her benefit. She is raising a large number of young chickens, and she finds that the expenses are rather heavy just now, without any return. I have therefore handed her 1*l.* for present needs, and will make the money last as long as possible. She appears very grateful for the efforts that have been made on her behalf, and I am sure she will do all that can be done to bring up her large family by downright hard work and careful expenditure. She is a most energetic woman and a good manager."

ASSOCIATIONS OF BEE-KEEPERS—THEIR WORK AND CLAIMS.

Bee-keepers may be roughly divided into three classes: first, those who have taken up apiculture for resulting profits; second, those who have entered upon it as a hobby, or for purposes of rational occupation and pleasure; third, those who have been influenced by a combination of the preceding motives. The numbers comprised in the first of these classes are probably the smallest of the three. Those included in the second are more numerous; while the great majority would, doubtless, be ranked in the third division. For, though many apiarians are in no sense dependent on the produce of their hives, or would even care to sell honey or wax; they might, without shame, confess that they expected their bees not only to pay expenses, but, in addition, to afford opportunity for those pleasant little gifts to friends which double the gratification of having home-grown vegetables, fruits, and honey.

Now, whatever may be the motives which induce bee-keeping, it is quite certain that every one who has taken up the pursuit desires to succeed in it. All assistance, therefore, to that end should be readily welcomed. New literature on the subject, improved apparatus of all kinds, fresh varieties or strains of bees, the experience of those long versed in the art of apiculture, are all most valuable means of progress, both for the beginner and the adept. There is, however, another source of strength and help which, while already in extensive operation, has not yet received all the attention due to it. This is membership in Bee-keepers' Associations and their branches. It is the

main purpose of this article to point out the advantages desirable from such membership.

It will be well first to state a few facts connected with the Associations already in existence; next, to indicate the benefits these have conferred, and are still more capable of conferring on the lovers of apiculture; and lastly, to give some particulars and suggestions which will aid in the formation of new Associations, or of district branches of those now at work.

It was in May, 1874, that the British Bee-keepers' Association was instituted. Its origin was due to the fact that such strides had been made in the management of bees, that it was felt the time had come for drawing into co-operation those who were really and practically interested in the pursuit. There is no doubt that the formation of the Association gave a still further impulse to the industry of apiculture—an impulse which has received, from year to year, fresh increments of energy from the establishment of County Associations. Of these there are at the present time no less than thirty-one in affiliation with the B. B. K. A. Many of them are sub-divided into district branches, so that it may be safely said there is a great network of organization spread over the country from East Lothian to Cornwall.

Now comes the important question, What benefits are the various classes of bee-keepers receiving from these Associations? Concise and classified replies on this point are appended.

I.—Dealers in bees and bee-apparatus of all kinds are benefited in the following ways.

(*a*) The large and widely spread interest in apiculture, directly fostered by Associations, leads to a constantly increasing demand for stocks, hives, and all sorts of appliances.

(*b*) Shows can rarely be inaugurated and carried out except under the auspices of Associations. The opportunities which such Shows afford for the exhibition of all that is connected with bee-keeping, can scarcely be overrated. Dealers in stocks or swarms, honey, wax, hives, &c., are, therefore, already more indebted to Associations than they are probably aware, and their prospects for the future are largely dependent on these organizations and their successful working.

(*c*) Manufacturers of bee-apparatus gain all sorts of hints, suggestions, and new ideas, not only from Shows, but also from intercourse, correspondence, and various kinds of communications between members of Associations.

II.—Those who make profit a secondary consideration may find abundant reason for belonging to Associations, and that on the following grounds:—

(*a*) No person can attain *unaided* to a sound knowledge of bee-keeping without a long course of mistakes, experiments more or less futile, disappointments of many sorts, and much expenditure of valuable time, all of which evils may be reduced or obviated by membership in some Bee-keepers' Association; for not only can beginners obtain excellent advice, direction, and help from their co-members, but at Shows they will acquire much important information as to the best methods of securing honey, displaying it in attractive form, and disposing of what surplus they wish to sell.

(*b*) As the science of apiculture progresses, it becomes more and more necessary to *keep abreast of the times*, if it is desired to obtain the best results. Opportunities for thus advancing in knowledge are well afforded by membership in active Associations.

(*c*) It is often of great importance to have the specially skilled advice of an 'expert' in practical matters, such, for instance, as those relating to 'foul brood,' and other diseases of bees, the comparative advantages of the different varieties (Ligurians, Carniolans, Cyprians, or the common English strain), and many other points which, sooner or later, crop up in apiculture. Now, in most Associations special provision is made for such an 'expert' to visit all members who may wish him to do so, either in spring or autumn, or at both seasons.

III.—Those who care for bee-keeping in itself, without any expectation or desire of its being more than a hobby, yielding intellectual gratification, pleasant out-door occupation, and agreeable results of skill, should certainly belong to Associations for the following reasons:—

(*a*) Such persons are usually in a position to be helpful to those beneath them in worldly prosperity, and the small annual subscription required for membership in a Bee-keepers' Association will, directly or indirectly, tend towards very usefully helping those for whose interest, at least in part, combination among bee-keepers has been found so beneficial; for one great object of such Associations is to put an end to the old, wasteful, and barbarous methods of taking honey, and this, by showing the uninstructed some better way than they have before known. And there is no doubt that every one who becomes really interested in bee-keeping, will earnestly desire that the antiquated and cruel practices connected with straw hives (skeps) shall no longer prevail.

(*b*) There is among bee-keepers a sort of free-masonry which puts them speedily at ease with each other. When they are brought into intercourse by co-membership in an Association, the pleasures and advantages of such friendly communication become intensified, and many an hour is most agreeably spent in talking over experiences of different kinds to mutual edification and advantage.

(*c*) Since Associations are the great means by which general information as to bee-keeping is diffused, all who are interested in the spread of this branch of knowledge should cordially support the Committees, who arrange lectures, supply literature, and establish libraries of bee-books, organize and carry out Shows, all of which work can only be accomplished by the aid of subscriptions from those who are willing and able to afford them.

IV.—Lastly, 'union is strength,' and this strength of combined action is likely before long

to be needed. The day is not far distant when the minor industries of rural life will have to be fostered and developed. Recent years have testified to a decided drift in this direction. Reference to the attention now being paid to the preservation of our fruits of all kinds, by bottling them, or turning them into jam, will be sufficient to illustrate the above statement. Now, in all our country districts there is still room for an enormous extension of bee-keeping. Hundreds of thousands of pounds might annually be made from the nectar of flowers which, under present conditions, 'waste their sweetness on the desert air.' But this harvest will not be secured till the children of our agricultural population are taught the elements of rational apiculture as a part of that Technical Education which must soon be given throughout our land. Powerful Associations of bee-keepers will be the proper means of forcing the attention of the authorities to the importance of this subject.

So much by way of plea for the support of Associations. The following hints for the formation of such bodies and for their working may be useful.

The first thing needed is that two, three, or four men or women who are in earnest about bee-keeping should meet and suggest the names of others likely to join in the establishment of an Association. The next point is to secure some person of influence in the particular neighbourhood to serve as President, and others to act as Vice-Presidents. Then will come the choice of an active Committee, whose duty it will be to appoint a reliable Treasurer and an energetic Secretary. The last-named gentleman will, among other duties, see to the circulation of a good supply of bee-literature, and, above all, of the *British Bee Journal*, now being published at the very small cost of a penny a number.

In addition to periodical meetings of the Committee, arrangements should be made for regular visits of an 'expert' to the apiaries of all members of the Association, also for shows and competitions in bee-produce and apparatus at horticultural and allied exhibitions. The hunting up of old-fashioned bee-keepers, and their instruction in modern methods should be attempted. Popular lectures, well illustrated by diagrams, should be arranged, and the public interest of the neighbourhood should be aroused for obtaining new members and enlarged subscriptions to the funds of the Association.

Further information, if required, should be asked from Mr. John Huckle, the Secretary of the British Bee-keepers' Association, Kings Langley, Herts.—W. H. H.

BEES.

Our ancestors held these industrious people in great veneration, and believed them to be of paradisaical origin. For this reason their priests taught that the chanting of mass was not acceptable to the Deity, unless the lighted tapers were made of their wax. Out of their dulcid stores they brewed their national liquor, metheglin, or the medicinal beverage.

When the country was almost one continual wilderness, almost every hollow oak was an apiary; and as the woods were gradually destroyed, the bees were diminished in proportion. Their nests on the wastes were the property of the lords of the soil, and rented by some of their vassals. On freehold lands they were claimed by the respective proprietors. The discoverer of a swarm was entitled by law to a reward of one penny if they were domesticated bees; and one penny and dinner, or, in lieu of them, the whole of the wax, if they were of the wild race. Whoever cut down a tree upon another person's property, in order to get at the nest of bees, was to be amerced the full value of both tree and bees. The respective prices of different swarms were ascertained by law, in the following manner:—

The parent hive, 24 pence.
The same, after emitting one colony, 20 pence.
The same, after emitting a second, 16 pence.
The same, after emitting a third, 12 pence.
The first swarm, 16 pence.
The second swarm, 12 pence.
A colony from the first swarm, 12 pence.
The same from the second swarm, 8 pence.

Early swarms were reckoned of full value by the 1st of August; such as swarmed after that date were not valued above 4 pence* until the following May.

In comparison with prices of other articles at the time the Welsh laws were framed, bees, by above account, seem to have been very dear, and consequently scarce; but the price set upon them by law was much above the real price in commerce between buyer and seller.

This was owing to the veneration they were held in by the Legislature, and intended to deter the subject from offending against the statutes made to preserve them. As a confirmation of this opinion, everything that belonged to bees had its value exaggerated in law. Even a bee-hive was appraised at 2 shillings, when a new plough, without irons, was valued only at 2 pence; a cow, with the first calf, 48 pence; a yearling calf, 14 pence; and a sucking lamb, 1 penny. The sacred esteem in which bees were held at length declining, apiaries were gradually reduced to their present fewness of number. However, several persons still execrate the profane act of disposing of their bees for money, but will, nevertheless, let them out for one-half share of the honey and wax, when they are killed annually in autumn, and the whole live-stock to be parted equally between them at the end of the fourth year.

Methods of procuring the honey and preserving the bees alive are not, perhaps, sufficiently, attended to. Among twelve premiums, proposed

* Several kinds of pence occur in the Welsh laws: Ceiniog gota, a current coin, apparently equivalent to our present penny; and ceiniog gyvraith, or legal penny, an imaginary money of the value of three-halfpence current, *i.e.*, sixpence in law was equal to ninepence in commerce.—*Witton's 'Glossary.'*

by the Wrexham Agricultural Society for the year 1797, were the three following:—

'Class III.

'I. To the cottager who, before the 1st of September, 1797, shall raise the greatest number of stocks or hives of bees, not fewer than seven —three guineas.

'II. To the cottager who shall raise the second greatest number—two guineas.

'III. To the cottager who shall raise the third greatest number—one guinea.'

Other societies have since offered and bestowed similar premiums.

Large, heathy mountains, such as those of Berwyn, swarm with a wild race of bees when the heath (*Erica vulgaris*) is in bloom. On these wilds a person may ride many miles without hearing the least noise, save the monotonous hum of these busy insects.

Druggists buy what honey is made above home consumption for about 2*s.* per quart, ale measure; but it is retailed out more savingly by ounces Troy. Thirty years ago it was frequently sold out for 1*s.* per quart.—*From an old book on 'Agriculture in North Wales,' printed in* 1810.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see* 1*st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

IN THE HUT.

'The flowery leaf
Wants not its soft inhabitants. Secure
Within its winding citadel, the stone
Holds multitudes.'—Thomson.

[991.] So evidently thought the writer of the paragraph on 'Bees in a Block of Stone,' quoted on p. 88. It seems to have been sufficiently noteworthy to deserve comment, in spite of your editorial remarks, for the extremely credulous and argumentative must always reflect that 'if a toad may remain for no telling how many thousand years embedded in a block of coal, why should not a stock of bees be in a block of stone, for an indefinitely long time, in a semi-dormant state?' The historian, by the way, forgets to say anything about combs or honey. I almost wonder we did not get some fossilised nectar and wax.

Last week the crocuses were expanded to the full in the noon sunshine, and advantage was taken of the opportunity to put pea-meal in the blossoms. The bees simply roll themselves over in this, and get off home with a load adhering to their body-hairs. Then, on Thursday, we gave each hive a cake of soft candy (run into old sections), whether short of stores or not; indeed, I didn't take the trouble to look for fear of the risk of disturbance. I just wanted to ensure they should not want, at any rate, and am of opinion that, even with plenty in the outside frames, there is great risk of spring starvation; besides, the presence, just over the cluster, of the candy, on which moisture condenses, is a stimulus to take it down and encourage brood-rearing. I believe it is the bee-keeper's wisest plan to slowly feed all through spring, no matter the state of stores. Of course, when the weather will allow him to, he should exchange the empty frames adjoining the cluster for the full ones on the outside.

Having taken the precaution to wrap all well up with warm quilts, over strips of kamptulicon placed round the candy, it is an immense gratification to be able to mentally shake hands with one's self as the sleet and snow are driven about before the northerly blast. There is a lot of 'Oh, what a good boy am I!' about the careful bee-keeper.

Now we are looking forward to the time when—

'The sunbeams on the hedges lie,
The south wind murmurs summer soft;
The maids hang out white clothes to dry
Around the elder-skirted croft.'—Clare.

We are thinking of the approaching Eastertime, and the free, full permission of the season to make a thorough examination of hives, giving newly painted hives, or clean floor-boards; strolling up home as—

'A calm of pleasure listens round,
And almost whispers winter by.'

In the flower-garden there are quantities of crocuses (the only thing I care about planting for bees), used simply as vehicles for pea-meal. Christmas roses have run through the season into the blooming-time of hybrid varieties; the cherry-pie-scented blooms of Italian coltsfoot are past, the hawthorn-scented winter aconite has also gone; snowdrops are nodding *au revoir* till next February. The beanfield odour of the Mezereon Daphné—

'Mezereon, gay with crimson-tinctured bush,
Again revives coy Daphné's maiden blush'—

is yet showing its crimson blooms before its leaf-burst. The hepatica is going away from us just as the pulsatilla (wind-flower), the glory of the snow, the puschkinia, Siberian squills, and grape hyacinths are bursting into bloom. Now, although 'X-Tractor' considers his garden very poorly supplied with hardy perennial plants compared with some he knows, a little reflection causes him to be thankful for the many he really has that have come up to greet him without fail for a dozen years.

I used to paint hives with striking primary

colours, so as to enable the bees the better to recognise their own hives. Finding, however, that their homing power by itself is quite sufficient guide, and that if a few bees do visit about a bit or get mistaken as to their true *domum* no harm seems to follow, this spring will find my hives painted white, and white only. The bee-garden looks better without its usual array of gaudily-coloured, dog-kennel-looking hives. I shall never forget a bee-garden I once visited down in Yorkshire, with its rows of clean, white hives.

This year we notice the blue-tit conspicuous by his absence, and small pity 'tis; to slightly parody the poet:—

'The *bee-keeper* loves not the little blue-tit,
For he sees the ground beneath
With *bees* bestrewn; and he vows, at noon,
Ere night to be his death.'

Am I telling a secret, or am I simply in advance, when I notify the British bee-keeper that he has another magnificent fad in front of him? Knowing men, of light and leading, prophesy that the new-old idea of working two queens back to back, as explained at the recent *conversazione*, is destined to revolutionise bee-keeping. So it will—for a time. I remember poor friend Marshall showing me an immense structure worked on this principle at Hemel Hempstead. It did not answer because they did not succeed in working the queens in equal yoking; one got ahead of the other and was not re-queened when spent out, and there was generally *one stock short*. To close up this letter, I am quite convinced by the protracted winter that there is every likelihood of a rattling season for the bee-keeper, giving him plenty of work for—X-Tractor.

CEDAR FELT FOR QUILTS.

[992.] Have any of your readers tried 'Sanitary Cedar Felt' as a quilt for hives? I have given it a trial, and find that it answers admirably; not only for the maintenance of warmth, but also for keeping moths and earwigs at a distance. The felt can be obtained at most furniture or carpet shops at a cost of 2½*d.* per yard, of twenty-two inches width.—C. S., *Harringay, N.*

THE ARTIFICIAL HONEY DODGE.

[993.] I send you a cutting taken from the *Bazaar* (a paper supposed to be in the interests of bee-keeping). It may be of interest to your readers, especially in the event of its being a bad season. I omit advertiser's address.—H. T., *Wolverhampton.*

'Fig candy, molasses candy, raisin candy, three recipes, post free, 6*d.*; Artificial honey, often mistaken by best judges to be genuine, cheap, palatable, and luxurious recipe, post free, 1*s.* 1*d.*—H. F.'

WATERPROOF COVERING FOR HIVE ROOFS.

[994.] Referring to the letter of Mr. Burkitt (955, p. 89), in your issue of March 3rd, as to 'Willesden paper' as a roofing material for hives, I think that nothing better could be had in the apiary, either for keeping roofs of hives or bee-houses water-tight, and, as some little difficulty might be experienced in the country in obtaining the paper or cardboard, I take the liberty of supplementing Mr. Burkitt's article by the following instructions for making it, which may possibly be useful: The paper (which should be as thick as possible) or cardboard may be made impervious to water by steeping it in a solution of cupro-ammonium. If the cupro-ammonium cannot be obtained at a chemist's shop, it is easily made by adding a few pieces of copper to a vessel containing strong liquid ammonia of strength ·880, which costs about 1½*d.* per ounce, or 1*s.* per pound. This mixture is highly poisonous, and should be placed in the open air, as the fumes from it are very strong. The paper or cardboard should be allowed to remain in the solution until it assumes a bluish tint, and when taken out and dried will be perfectly waterproof.—C. S., *Harringay, N.*

WEATHER REPORTS.

Westbourne, Sussex.

March, 1892.

Rainfall ..... 1·02 in.	Sunshine, 155·45 hrs.
Heaviest fall, ·52 in. on 15th.	Brightest day, 30th, 12.35 hrs.
Rain fell on 10 days.	Sunless days, 3.
Below average.. 1·27.	Above average, 24·7.
Max. temp., 57° on 31st.	Mean max. temp., 43°.
Min. „ 21° on 9th.	Mean min., 29·8°.
Min. on grass, 13° on 9th.	Mean temp., 35·8°.
Frosty nights, 20.	

A very cold, but also very bright, month, with only three hours less sunshine than last August. Bees all well.—L. B. Birkett.

Bagnalstown, Ireland.

March, 1892.

Rainfall	·99 in.
Greatest in 24 hrs., 16th	·40 „
No. of days on which rain fell ..	9
Maximum temperature, 19th ..	56°
Minimum „ 11th ..	19°
Max. ground temperature, 18th ..	41°
Min. „ „ 11th ..	9°
Max. mean „	43·35°
Min. „ „	31·51°
Frosty nights	26

The earlier half of month proved very cold, with fall of snow (three inches) on 10th. The latter half warm by day and cold at night. Bees working hard in furze-bloom.

J. Henderson.

BUCKNALL, LINCOLNSHIRE. BM. 25.
March, 1892.

Maximum	63° on 31st.	Rain, 1·14 inches.
Minimum	6° on 9th.	Snow, 4 inches.
Mean max.	.... 44·3°	Rain average 6 yrs. 1·67.
„ min.	.... 27·2°	In 24 hrs. on 15th, ·27.
„ temp.	.... 35·7°	Range of temp. 57°
„ of 6 years	38·4°	Snowy days, 14.

J. BINT.

Queries and Replies.

[503.] *Foul-broody Combs in Hives.*—Last year I had some frames with new combs nearly covered with foul brood. 1. Would it be advisable to cut out such diseased combs and insert new ones before the queen begins laying? 2. I should much like some information how to treat and prevent foul brood.—S. BRUCE, *Balham, S.W.*

REPLY.—1. Combs 'covered with foul brood' should have been removed from the hive and destroyed when discovered, and it is a bad look-out for the future of the stock when such combs have been left in the hive since last year. You must also endeavour to realise in a greater degree the terribly infectious nature of the disease before you can expect to cope successfully with it. 2. The best method we know of treating foul brood is with Naphthol Beta in the food and naphthaline as a preventive, as described so frequently in our pages.

[504.] *Preventing Swarming.*—I have five stocks of bees and am most anxious not to have any increase of stocks. I propose to proceed as follows this year, and shall be glad to hear whether you consider the method a sound one. I am having made supers large enough to hold nine or ten full-sized frames. About the middle of May, and before any evident desire to swarm is manifested by the bees, I propose taking all the frames but one or two, from the stock hive, and sweeping off the bees from the frames about to be removed, so as to ensure the queen being left in the stock hive, and to place these frames above in the supers, which will be placed at once on the stock hive—of course, with excluder zinc between. The empty spaces in the stock hive and super will be filled up with frames of comb or with foundation. I believe this method, if done at the right time, will check any desire to swarm. The only point I am in doubt about is whether one or two frames of brood should be left in the lower (stock) hive with the queen.—A. L. Y. M., *Northants.*

REPLY.—In all such operations as that proposed, there is so great a risk of chilled brood as to make a trial of them very unadvisable. A much safer plan, and one as likely to stop swarming as the other, will be to keep the brood combs intact, and set the second hive, fitted with comb or full sheets of foundation, below, with no excluder between. As room for ovipositing was required, the bees and queen would take possession of the lower chamber, and when breeding had fairly started in the latter the excluder might be put on between the two hives.

[505.] *Raising Queens.*—I have examined my nine stocks of bees to-day, and I have never seen the hives so full of brood at this time of the year since 1868–9. 1. What is the best plan to raise young queens, and the proper time to do it? I am an old bee-keeper, but never tried it on yet. 2. What steps should be taken to commence a bee-club or association? There are a good number of bee-keepers about here. Your advice through the *Journal* might have some influence. I will be glad to do all I can for it.—JOHN GEORGE BROWN, *Stockton-on-Tees.*

REPLY.—1. As your bees are doing so exceptionally well just now, we would advise you to do nothing likely to stop their progress. All the young queens you want may be easily raised by dividing any of your stocks which happen to swarm into three or four nucleus colonies, and utilising the queen-cells left in the old stock for raising young queens in these nuclei. 2. The first step is to get half-a-dozen active and influential bee-keepers to promise to join you as a committee, then write to Mr. Huckle, Kings Langley, for advice.

Echoes from the Hives.

Northiam, Sussex, March 28th, 1892.—To look at my bees this afternoon, one might have thought that they were contesting with one another to see which could get home the most pollen. Many catkins of the willow are in full bloom, whilst there are enormous quantities which will continue to bloom throughout the month of April. The two out of my eleven colonies which seem somewhat backward, I hope to encourage by gentle feeding. Examinations prove that the hives are being rapidly filled with brood, and all still have plenty of stores.—J. MORETON LORD.

BEE-KEEPING FOR BEGINNERS.

(*Concluded from p.* 119.)

For hiving swarms in frame hives, after the hive is prepared by fitting the frames with foundation, and the tops of frames covered with heat-retaining material, the front of the hive is raised about one and a half inches from the floor-board by means of two wedges or stones, and the swarm is thrown gently from the skep, or other receptacle, on to the alighting-board in small batches, first, near the entrance, and, finally, on the centre of the alighting-board, when the bees will enter the hive like a flock of sheep going into the fold. The frame hive takes the place of the skep, from which place the swarm is driven on its own stand when

about to receive the swarm; and the straw hackle is used and tied so as to cover the front and part of the top of the frame hive, so as to cause the frame hive to appear as near as possible like the original hive, and thus induce the bees coming back from the field to alight near the entrance, when the scent of their comrades inside will cause them to enter, and prevent them from going into neighbouring hives through bewilderment at the very altered appearance of their own. An empty skep covered with the hackle is placed on the empty stand while driving, for the same purpose.

Individual colonies are reduced in autumn to the room which they can occupy by the use of one or two dummy boards placed at the side of the frames left in the hive after the surplus ones have been removed.

When giving additional room to the colonies in spring, and almost until they are ready for supering, I always give frames filled with foundation, because, during that time, such frames are readily built out with worker comb, free from drone cells. When I give only one frame I place it right in the centre of the brood nest; if I give two, I leave two frames of sealed brood between, and I am careful to see that there are at least two frames of sealed brood on either side of those given. I open the hives and attend to their requirements once every fourteen days, from the end of March to the beginning of May, after which the hives are supered with ready-built shallow frames for extracting, or with sections, as they become ready for them. The super frames, when filled and sealed, are removed from the hives, shaken free from bees, and placed in special comb boxes for removal to the honey-room, where, after the capping which covers the honey has been removed from the face of the combs with a suitable knife, they are placed in a machine called a honey-extractor, which, by centrifugal force, throws out the honey without injuring the combs. The frames, after extracting, are replaced in the hives, to be re-filled by the bees. The honey is then placed in tall cans or pails, which allow the particles of wax to ascend to the surface before bottling off in jars. Honey should only be presented for sale in glass bottles with screw covers, nicely labelled with the name of the producer. Sections should be removed from the hives as completed, and replaced by others filled with a sheet of special extra thin foundation. In preparing sections for sale they should be scraped clean and free from propolis, and presented in metal cases, also suitably labelled.

Colonies of bees can winter here on fifteen pounds of honey; but they will develop to much greater strength in spring if left with twenty to twenty-five pounds of winter stores. Scarcity of natural stores in the autumn can be supplemented by giving the bees syrup made from refined cane sugar, if obtainable, or from crushed sugar, by adding one pint of water to each two pounds of sugar, and boiling for three or four minutes. Such syrup should be given early, say at the end of August or beginning of September, in special feeders, placed on the top of the hives, and the colonies snugly packed for winter, during which they should be kept in perfect rest. Syrup, with rather a greater proportion of water, should be given to swarms for a few days after the second day of hiving, and supplied to other colonies if such appear in the summer to be getting short of food during prolonged bad weather. If you desire to succeed in bee-keeping, remember the golden rule that your colonies should never know what dire want is, so far as food is concerned.

Gardeners will find it very beneficial and profitable to have a few hives of bees near at hand, because they are indispensable as auxiliaries for the fertilisation of fruit-bloom, and they are specially of great assistance for the bloom of such vegetables as pumpkins, cucumbers, and melons. As bees do not go far from the hives, except during fine, settled weather, and as the weather is seldom so with us during the earliest months of the year, flowers in sheltered positions at only a short distance from the hives have the greatest chances of becoming properly fertilised.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

H. R. (Odiham).—*Self-Hivers.*—We hope to give an illustration of a self-hiver in our next, from which you may be enabled to make one.

C. H. L.—Comb is foul-broody, but it does not appear to be a bad case. Remove all combs on which there are sealed cells either broodless or with dead and decayed larvæ in them, and feed the bees with medicated food, in addition to placing naphthaline on the floor-board. Keep the bees warm, and watch carefully if the brood now being raised hatches out in due course.

Gingle (Devon).—*Foul-broody Hives.*—Comb sent is foul-broody, and if there is neither queen or eggs in the hive, we should say the bees are scarcely worth saving. If you have a surplus queen, or one with only a few bees, and the bees in the diseased hive are as numerous as stated, they might, however, be utilised by removing them from the combs and keeping them in a skep indoors from forty to forty-eight hours without food, then adding them to the stock it is desired to strengthen; otherwise we should destroy the bees and combs, and disinfect the hive thoroughly before using again.

Erratum.—In the reply to H. Smith, second column, p. 129, *for*

1 gramme = ·35 ounces.
10 grammes = ·035 „

read—

1 gramme = ·035 ounces.
10 grammes = ·35 „

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 512. Vol. XX. N.S. 120.] APRIL 14, 1892. [*Published Weekly*.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Still the summer-like weather continues, and bees are booming along merrily, not in the south alone, for we hear of them being very active even in far-off northern districts, and that good progress is now being made in nearly every part from which reports reach us. Whatever 'stimulating' may do for bees, we find that nothing so much tends to stimulate the bee-keeper as bright sunshine and warmth in April and May. No matter how lethargic may be his temperament, or how small an amount of care or thought he may usually bestow upon the bees when to be out of doors at all means discomfort, the sight of bees on the wing attracts him towards their hives, and when the busy workers are seen hurrying in pollen-laden he casts off his hibernation, his old enthusiasm is aroused, and he becomes himself a 'busy worker' once more. We have evidence of this as regularly as each season comes round in the correspondence reaching us, and this year especially so, for everywhere bee-keepers are being roused up by the continued fine weather and the bright prospect of a good honey season before us. An April without rain, however, is not desirable, even though it suits exactly the present needs of the bees; indeed, vegetation in our district already begins to wear the parched look it usually has when lacking the refreshing showers of April. Bee-keepers must, therefore, hope that we may not have too much wet when it comes, and, for the present, be thankful for the advantages the sunshine and warmth are bestowing on us.

ANTS IN HIVES.—In view of the oft-recurring inquiry how to get rid of ants in hives, it may be well to record a useful 'find' in the shape of a simple remedy. A week ago we found a number of these unwelcome intruders about the quilts and top coverings of a couple of our hives—quite two or three hundred in each—and, chancing to have some powdered naphthaline handy, we sprinkled it pretty freely among the quilts and also in the space between the hives and outer cases. The result was eminently satisfactory, for we have not seen a trace or sign of a single ant since.

'AN EARLY HONEY HARVEST.'—The communication of our correspondent, Mr. Neve (999, p. 147), will, no doubt, astonish many readers as well as ourselves. Taking off sealed sections of new honey the first week in April, and in a season so backward as this, reads like 'romancing,' and we may safely congratulate Mr. Neve on his experience, which, if not unique, is to say the least, very remarkable. Looking at the fact as stated, it would appear that present atmospheric conditions are decidedly favourable to the secretion of nectar, for we never before heard of sealed sections of 'willow' honey.

PRICE OF SUGAR.—We are glad to note that the price of sugar has again come down to its original figure, as quoted in the usual column, and trust to hear of no more 'fluctuations,' as it is inconvenient to have to direct attention to these matters. It should also be borne in mind that at least two or three days must elapse after an order is sent before delivery can be expected by goods train.

ORDERING GOODS.—We have repeated, *ad nauseam*, the caution not to delay placing orders for bee-goods until dealers are too busy to give prompt attention to them. So much of success in bee-keeping depends on being ready for any emergency, that we again urge readers to get in what they are likely to require for the coming season. By doing so they will avoid having to make the too common 'complaint' of non-delivery.

BEE-KEEPING AND AGRICULTURAL EDUCATION.

We gather from the *Times* of the 7th inst. that Mr. Jesse Collings, M.P., has introduced a Bill to provide for the teaching in public elementary schools of agricultural and horticultural subjects, and for the practical illustration and application of such teaching. It proposes to empower any School Board, or the managers of any public elementary school, to provide and maintain means and facilities for the purpose of giving instruction in any of certain subjects set forth in the Bill, or in such other analogous subjects as may be sanctioned from time to time by the Committee of Council on Education or by the Science and Art Department. For these purposes School Boards and school managers are to have the power to provide or contribute to the provision of such school gardens, allotments of land, workshops, tools, and appurtenances as may be necessary for carrying out the provisions of the Bill; and the expense of this is to be deemed a contribution to the annual expenses of the school. All such schools are, however, to be subject to the inspection of the officers of the Committee of Council on Education or of the Science and Art Department. A special grant, not exceeding fifty per cent., is to be made by the Committee of Council on Education or Science and Art Department for the expenses of providing such allotments, school gardens, buildings, fittings, tools, and appurtenances as may be necessary to provide instruction under the provisions of the Bill; but full particulars as to these are to be submitted to and sanctioned by the Committee of Council or the Science and Art Department. Permission is given to a county council or a county borough council to make a grant or loan towards the expenses of a School Board out of the sums received in any year under the Local Taxation (Customs and Excise) Act, 1890. Grants or loans may also be similarly made for the purpose of supplying educational collections consisting of books, specimens of animals, birds, insects, minerals, and other objects suitable for the instruction given under the Bill. The Committee of Privy Council are directed to make such alterations in the code of regulations as will admit of special instruction in agricultural and horticultural subjects being given in public elementary schools.

Readers will, no doubt, be interested in learning that bee-keeping is included among the subjects expressly mentioned in the Bill, so that if Mr. Collings' Bill passes there will be no lack of chances for the rising generation becoming conversant with all that can be taught in schools on the subject. Moreover, it would afford an excellent opportunity for combined action between school managers and the Technical Instruction Committees of County Councils who are already engaged upon the same work.

Schoolmasters, also, in rural districts especially, will at once have an inducement for qualifying as teachers of bee-keeping, and be thereby enabled to supplement the instruction now being given under the auspices of County Councils; thus furnishing the connecting link we have so anxiously hoped to see established between the peripatetic lecturer and the permanent schoolmaster.

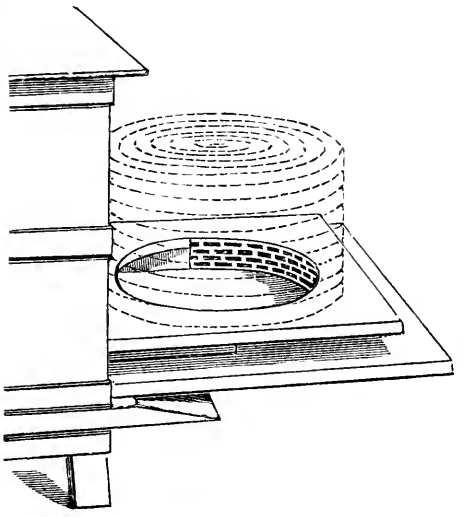
HEREFORDSHIRE BEE-KEEPERS' ASSOCIATION.

Early in the year 1891 a hurried application was sent to the Technical Education Committee of the Herefordshire County Council for a grant of 50*l.* to be applied to a special tour by a practical expert throughout the county. This application was too late for 1891. In November the Council advertised for applications for 1892. A similar application for 50*l.* was made, and at a Committee meeting of this Association a scheme for applying this grant (provided it was granted) was decided upon. The scheme embraced the purchase or hire of a suitable travelling or sleeping one-horse van, out of a special fund to be raised for the purpose, not out of the grant. The expert of the Association, with a lad as assistant, would make a tour through the county during the summer, taking with him suitable appliances and a bee-screen, also an optical lantern and screen, and a set of bee pictures. He would give practical demonstrations in apiaries in the afternoon, and a practical talk from the platform of his van in the evening, illustrating his remarks, if possible, by means of the lantern pictures. He would endeavour to give as much practical help as possible to all bee-keepers on his route. The tour of the van would be announced in advance, and as complete arrangements as possible made with the aid of local bee-keepers. The Committee have now received notice that the grant of 50*l.* is awarded them, and they are now raising the fund for the purchase of the van, and otherwise organizing the matter.

A NEW SELF-HIVER.

It will be in the recollection of our readers that we some time ago promised to give an illustration of the 'self-hiver' designed by Mr. W. J. Sheppard, who, in the *Bee Journal* for February 4th of this year (p. 45), gave some particulars as to his method of using it. We now insert a sketch of the contrivance, which, as will be seen, consists of two boards, the lower one being a few inches larger than that above; and these boards are spaced one inch apart by means of two slips of wood one and a quarter inch square and ten inches long. From the ends of these slips is fixed in circular form a piece of queen-excluder zinc, as shown. The width of hiver is regulated by the width of the hive front on which it is to be used, and special details will also need to be introduced to accommodate peculiarities of entrances, porches, &c., seeing the hiver is so fixed that no bees can pass either in or out of the hive except through the excluder

zinc and across the new flight-board provided for them. In using, the stock hive is moved rearward, so that the front of the hiver falls exactly in the place of the original flight-board, and the bees, alighting there as usual, pass through the zinc and right across the space between the two boards, into their hive. The dotted lines in the cut indicate the straw skep



(or the frame hive, whichever is used) into which the queen and swarm is expected to ascend when the former finds she cannot pass to the outside. One great advantage claimed for this contrivance is that it allows the drones to pass up into the empty hive, and so lessens the chances of their blocking up the perforations of the excluder zinc with their bodies.

WEATHER REPORT.

EARL SHILTON, LEICESTERSHIRE.

March, 1892.

Maximum temperature, 24th		70°
Minimum	„ 10th & 11th	20°
Mean max.	„ 18th	57°
„ min.	„ 8th	28·6°
„ temperature		39·2°
Rain and melted snow		0·88 in.
Highest rainfall in 24 hrs., 16th..		0·38 „
Snow and rain on		14 days
Prevailing wind		N.

W. S. FULSHAW.

LECTURE ON BEES AND BEE-KEEPING.

In connexion with the Herefordshire Bee-keepers' Association, Mr. Alfred Watkins gave an instructive lecture on 'Bees and Bee-keeping' on Tuesday, March 29th, in the Recreation Room, Tupsley, Hereford. Mr. Watkins, who is an expert amateur photographer as well as a bee-keeper, made his lecture additionally attractive with lantern views of photographs which he had taken descriptive of the honey industry in Great Britain, Switzerland, Italy, and other countries. By historical references, he showed that rent had in some places in former times been paid in honey, and he pointed out that considerable quantities of honey might easily be raised in this country and be available for the food supply of the nation. He had obtained an average of half a hundredweight from his hives without killing the bees, and he named a waggoner near Hereford who cleared 10*l.* to 13*l.* a year by bee-keeping. In the course of many valuable hints he advised bee-keepers not to kill their bees, but to smoke and drive them into an empty hive; they should give more room as the hives got crowded by placing supers on top; feed the bees in the autumn, and stimulate them in the spring. Neither straw hives, stone floors, nor sacks as roof covering suited this wet district. If straw hives were used, flat tops were best, because supers could be added. He recommended bar-framed hives. All the more recent improvements were described. The provision of wax foundation was advised, because bees consumed twenty pounds of honey to make one pound of wax for the construction of their comb, and he also recommended the honey-extractor. Mr. Watkins' remarks and pictures describing the natural history of the bees were exceedingly interesting, enlivened as they were by poetry, Shakespearian quotations, and humorous anecdotes. Bee-keeping was, he urged, of great importance to the success of fruit-farming, and he explained how the flowers were fertilised by bees. The best way to extract a bee-sting from the flesh was to scrape it out with a penknife, and use cold water. Bee-keepers did not mind being stung occasionally. In conclusion he recommended bee-keepers to become members of the Association, by which a number of valuable privileges were ensured. A vote of thanks to the lecturer was heartily accorded.

WANTED—A HIVE.

As you will perhaps recall from a former letter, I am one of your A B C scholars in the art and science of bee-keeping. I have got far enough on in the past two years to know that there is to me a lasting fascination in the pursuit. My plan from the start has been to work with a few colonies until I should become practically acquainted with the habits and requirements of my pets, to read books and journals until somewhat posted as to the methods and appliances used by leading men in the business; and then, when I had tested my own capabilities, and had found the best all-round hive for the production of comb honey, to enlarge my plant, and work for profit as well as for pleasure and information. So far I followed what I think was good advice. When I finished reading the A B C book, two years ago, I thought I had a

well-defined plan, a good hive, and a good frame. To-day, on finishing the September 15th number of *Gleanings*, I have half a dozen or more of each, and am all at sea as to which will suit me best. Any one of them might do, if it were not that some other one is sure to have several better features. Root and Cook; Heddon and Doolittle; Miller and Tinker and Hutchinson.

'How happy were I with either dear charmer,
Were t'other dear charmer away!'

As it is, I *must* have the best; and how can I pick out the best of these varying methods, and so combine them as to keep bees with profit and pleasure? Is it always true that in a multitude of counsellors there is safety—never confusion?

The thought comes to me sometimes that possibly things would work smoother if I quit my part in the game of 'follow your leader.' Perhaps with my little apiary with ten or twelve colonies I shall want to 'handle frames instead of hives.' In thinking it over I really believe I shall. I am sure I shall want to be acquainted with my frames, both sides of them. I feel certain that my bees will fare the better and work the harder; that there will be less waste, and consequently more profit, if the boss looks carefully into every apartment of their home. And possibly I do not need a hive that is a good one for a queen-breeder; that is, a non-swarmer out-apiary hive; an extractor, comb-honey, winter, spring, summer cellar, semi-tropical, snow-drift hive combined; but just a *hive*, with movable frames, and a strong colony of bees in it. With Dr. Miller, 'I don't know.' I confess I can't keep up with you. You ought to have taught me something in the past two years that would enable me to decide what I want now; but as you have not done so, I am going to give you the task of deciding for me, and it would tickle my fancy and perhaps the funny-bone of others as well, if you could get, say, Heddon, Doolittle, and Ernest Root to answer the same query. Here it is:—

If you were going to start, and maintain at that size an apiary of ten colonies, say in Central Pennyslvania, having no money invested in bees or hives or fixtures of any kind, and having in view mainly the production of comb honey, what kind of bees, hives, frames, supers, and sections would you buy, and why?

I need not tell you that where there is one bee-keeper owning fifty colonies, there are twenty with from three to a dozen. Some of these are of the helter-skelter class, and it does not matter what hive or frame they use. Others are careful, practical, economical men and women, who keep a few bees because they get congenial employment, good foods, and welcome cash for them. These doubtless comprise a large majority of your readers, and I want a hive and frame for them as well as for myself—something that we and the bees can hang to for a dozen years at least.

I like the conservative note of Doolittle's last article. There is sense and cash in it, as regards fixtures, and I am reluctantly approaching the conclusion that the fine manipulations and advanced ideas which bring about such exact results belong exclusively to experimenters and to an experimental stage; and that, to a vast majority of bee-keepers they are practically but vanity and vexation of spirit. Isn't it enough to make a novice daft to read of the ease with which one can handle the Hoffman frame, and, in the same article, that there is no need to handle them, as the trained ear can detect queenlessness by the hum, and the hand estimate the amount of stores by hefting?

Now I believe in progression in every industry. I know these experiments must be made, and our special pursuit go on to perfection by way of selection and the survival of the fittest. I am glad the editors and the owners of large apiaries, and the many intelligent men who have made almost a lifelong study of the bee, are pushing ahead. Much good must result; but by the time a system is perfected and agreed upon by the leaders, I perhaps will have gone over to the majority. So I wish you to take account of stock now, and pick me out a hive and frame which I can use for the next five years in my proposed home apiary of a dozen colonies, without dreading that some acknowledged leader in apiculture will hint of kindling-wood when it is mentioned in his presence.

I have read somewhere that almost every bee-keeper at a certain stage in his experience invents a hive of his own. Is it any wonder? for, sooner or later he is sure to come to the conclusion that in this matter there is no such thing as an unprejudiced mind; or that, within certain limits, it makes no practical difference what the size or shape of hive or frame is. So why should he not have his own?

As you will no doubt guess, I am drawing very near that stage when either a hive of my own get-up or a humiliating guess at what to buy will be a necessity.—E. J. Baird, *in* '*Gleanings*.'

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

NOTES BY THE WAY.

[995.] The weather since I last wrote has been fine, and some days we have reached a high temperature, and my bees have been very busy culling the sweets from the few flowers

that are in bloom. During the past week our garden-fruits, such as gooseberries and currants, have burst into leaf and bloom, and on the larger fruit-trees there is a promise of an abundant blossom this year. I saw in our local paper a notice of a swarm of bees in March. This must have been a starvation swarm, though the paragraph would lead one to think it was a natural swarm. Even our leading lights require more light on some simple subjects. The present settled weather gives bee-keepers a chance for looking through, or even exchanging, hives if desirous of so doing; but in cases where bees have young queens, and strong, or fairly strong, colonies, with abundant stores, 'let well alone,' and if the hive requires a coat of paint, this can be done in the evening, covering the wet paint with a board to keep off the dew the first night. I know some bee-keepers make quite a fuss about painting a hive with the bees in it, but I should not think of putting the bees into another hive on that account. If the hive wants repairing, of course, the colony must be removed, but not for the simple job of giving the hives a coat of paint.

The 'points' in the different races of bees get pretty full recognition amongst the American bee-keepers, and I find more speak in favour of the black or brown bee than was the case a few years back; also the subject, How much does honey cost to produce? One says 8 cents; another, 10½ cents; and Mr. Doolittle estimates that a pound of honey costs a trifle over 13 cents to the producer; and even at that price he only allows the rate of wages to the bee-keeper that the hod-carrier—*i.e.*, bricklayer's labourer —receives, viz., 1 dol. 25 cents (about 5*s.*) per day.

The past winter has played sad havoc with our wallflowers; nearly every one is dead. This is a distinct loss to the bees, as the wallflower comes into bloom early, when there is very little forage for the bees. Now is a good season to sow the seed for plants to bloom another spring; also other hardy annuals should be got in without delay. I have seen a few humble-bees on the wing during the past week, but not a single queen-wasp yet, either in hive wraps or on the wing, so that I hope we may not be troubled with the wasp plague.

The only objection I find to cutting holes in the comb as winter passages is, that a large number of queen-cells, another season, will be started in these holes, and with full colonies there is a difficulty in finding the queen, as she has a knack of getting into these holes, also of seeing the queen cells when the bee-keeper wishes to cut them out; and oft-times I have found the bees fill the holes during the honey harvest. For permanent passages through the combs, a ferrule of tin cut from any old empty tin box, and placed in the hole of the comb, will prevent bees filling it in, or using it as a queen-cell foundation.

With regard to Mr. Wells' plan of two colonies in one hive, the hive may as well be divided altogether, and have separate entrances from the brood nests though each working into one set of supers. This would reduce cost of setting up a new apiary, as only half the number of hives would be required, though those used must be longer, to give room for the colonies. Mr. Wells' total was good for last season; but the reason he had his hundredweights of honey, and his neighbour not even ounces, was because he had his bees ready to take advantage of the honey-flow and his neighbour's bees were not ready, as after sainfoin is cut the year's work is done so far as that source is concerned. I have had extended experience of the same results. I too have had hundredweights, and neighbours only pounds from same source.—W. WOODLEY, *World's End, Newbury.*

DOUBLING COLONIES.

[996.] I am struck with Mr. Wells' plan of having two colonies of bees in the brood chamber of his hives, separated by a perforated dummy, and allowing the bees to work together in the super chamber. I think the plan might be especially good in the north, where the 'season' is short. Although my experience in bee-keeping is short, I have observed how very much better a strong colony works. Ever since I commenced, my practice has been to purchase skep hives that were going to be smothered, drive the bees from them, and join them (using four) to my frame hives, which fills them to their utmost. I have never observed any fighting, but still I am surprised how comparatively few survive the winter, generally not covering more than parts of three, four, or five frames, although the whole ten have frequently been crammed in September and October, and with plenty of food and to spare. Two colonies died with me this year, though they were quite filled with bees in autumn; but one would not feed, from which I conclude it must have been queenless—perhaps the queens may have injured each other when I joined the other bees to them. The other, when I examined it this spring, only covered about three inches of three frames, and although there was any amount of food in the hive, and that I gave a feeder of syrup to stimulate them, they visibly dwindled, from the time the hive was opened, until they died.

I took out the full frames, and divided them over the other hives, but I observe they are taking the honey but sparingly yet. The bees are flying freely since the fine weather commenced.

Would you recommend me to adopt Mr. Wells' plan with a couple of the hives, viz., to put a perforated dummy in the centre, keeping all the bees of that hive on one side of it, and taking the frames, with bees and brood, from another hive for the other side? By the time they would require supering they would no doubt be friends. I should think well of putting another alighting-board to the back of hive, and making an entrance there, and then turn the hive a quarter round, so that both entrances

would be, as it were, at the sides. Would there be danger, doing this now, of old bees not finding their way back? I could turn both hives, one a quarter-turn to the right and the other a quarter-turn to the left, and bring the two backs close together for a few days before shifting the bees. A sheet of finely perforated zinc as a dummy would take up less space in the hive than a wooden one, and as all the heat is kept inside, I cannot see how it can 'take away the warmth required by the bees.' I should say that my hives are Abbott's 'Gayton' hives, with ten standard frames in brood chamber. I observe 'X-Tractor' does not approve of this plan of working.

I should add that I cover the tops of frames with a couple of pieces of felt the exact size of the hive, with four or five newspapers folded the exact size of the hive also, and most carefully put in so as to fill the corners, for wintering. Then, when I open the hives in spring, I take out the felt cover, which is generally quite damp from condensation of the breath, dry it thoroughly, and replace; thus I can go over all the hives by having a spare quilt. I did not like the idea of American cloth, fearing the condensed stream would fall on the bees. Do you see any objection in this, or how do you account for the decrease in the numbers? Perhaps I have been too late in joining the bees in autumn, and no eggs were laid afterwards?—J. M. K., *Castleblaney, April 8th*, 1892.

[Your experience forms a curious commentary on that of our correspondent (987, p. 128), to to which please refer as an instance of successful wintering of driven bees. We should not recom- you to adopt any modification of Mr. Wells' plan; either follow it out in its entirety or not at all. If you can rear a couple of nucleus colonies during the present year from a swarmed hive, add them to two of your stocks in autumn, and let the trial of the plan of working two queens in a hive come on next year. Porous quilts will always be damp if covered by non-porous material. With American cloth next the frames, we have no trouble in keeping quilts placed over this dry so long as roofs are watertight.—Eds.]

WORKING WITH TWO QUEENS IN EACH HIVE.

[997.] Mr. Wells' method of bee-keeping will surely take bee-keepers by storm. It is clearly correct in principle, and the result, in his hands, proves it to be anything but bad in practice. I fail to comprehend his reply to Mr. Carr's query concerning the division of the entrance by the perforated dummy; perhaps you will help me with a few words of explanation. If Mr. Blow's suggestion, that two entrances be used, be advisable, matters are very much simplified; it becomes, in fact, a case of 'Twin hives to the fore!' and the sooner hives take the form of keel-less Noah's Arks the better. As in twin hives the dummy would stand wholly within the hive, and, therefore, beyond the influence of external temperature, Mr. Wells' objection to metal dummies would fall to the ground. There may, however, be other drawbacks to the use of perforated zinc. May I, therefore, ask for a description of dummy used by Mr. Wells? A further thought occurs to me that, if the entrances to a twin hive were made near the corners, a slight modification of Mr. Simmins' method might possibly prove effective in keeping the swarming impulse in abeyance.—E. B.

[Mr. Carr's query simply had reference to the complete division of the two parts of the hive down to the floor-board when the latter 'dropped two inches;' and it was explained by Mr. Wells that a wedge-shaped piece of wood was inserted below the dummy, which filled up the gap between it and the floor-board, so that the bees had no passage underneath. The dummy shown by Mr. Wells was of thin wood, the perforations being burnt through with a hot wire. The holes were of good size, but not large enough for a bee to pass through.—Eds.]

BEE-PARASITES.

[998.] I am sending you three or four small insects (about one-quarter of a line diameter each) in a vial; I found the insects among my bees, and should imagine them to be some kind of bee-parasite. Not having read about them in books, I am prompted to submit them to your esteemed notice. Are they harmful to the bees; if so, how can I exterminate them?—Alfred Bowman-Smith, *Reading*.

[The 'insects' sent are not fully developed; they are, in fact, the larvæ of the *Braula cœca*, or blind louse. In its perfect form, it appears as in Fig. 1 in illustration, Fig. 2 showing the upper or

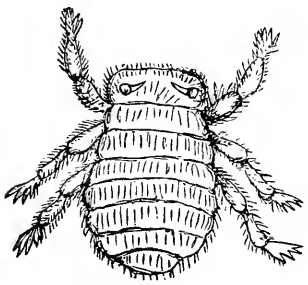


Fig. 1. Fig. 2.

convex side of the shell back of the larva, like the specimens forwarded. Both illustrations are, of course, much magnified. Parasites of all kinds are objectionable, if not harmful, and this is like the rest. Fortunately it does not thrive in this climate, and only exists in the south. It usually comes here on the bodies of foreign bees when imported, and dies out after a time. Fumigation with tobacco smoke causes them to drop from the bodies of bees on to the floor-board, when they may be brushed off and destroyed.—Eds.]

AN EARLY HONEY HARVEST.

[999.] Just two years ago now, I had the pleasure of telling my brother bee-keepers how nicely my bees had filled their combs with new honey from the willows, and I'm pleased to say that this spring they have done still better; most hives are, I believe, nearly full of new honey, which is being rapidly sealed over. To-night (April 6th) I've taken off a crate of sections, with sixteen of them *quite full of new honey*, and the greater part of it nicely sealed over—a sight I have never seen before in April. This hive was one I bought last autumn; the frames had apparently been dropped into the hive, and the bees left to build their combs the way that pleased them best. A crate of sections had also been thrown on at some time, which the bees had endeavoured to make a permanent fixture of. Not knowing how they were off for food in the immovable-frame department, and seeing that some few of the sections had honey in them, I just left them to take their chance for the winter. The old honey they almost cleared up, and the sections are now filled with beautiful willow honey, as also are the combs below. My object in removing the crate was to get the hive into a little shipshape order in readiness for another surplus honey trap, to be introduced later on. I find that, given good weather just as the willows are well in bloom, my bees gather honey much faster (according to their strength) than at any other time in the whole year. I think this is the first spring in my bee-experience that all my stocks have come through with a fertile queen each, and all are working in earnest this beautiful weather; the roaring and strong smell of the honey in the evening reminds one of June more than April.—Hy. Neve, *Warbleton, Sussex.*

Echoes from the Hives.

Westwood, Methwold, Norfolk, April 6th.—My six stocks are all in excellent order, and, given a favourable season, will, I hope, render a good account of themselves.—J. S. Warburton.

Haltwhistle.—I had intended sending you an 'echo' after the season of 1891 was over, but I failed to put my intentions into tangible form. Spring is once more upon us, and the lively hum of the bees reminds us of present wants and necessary duties to be performed—taking my cue from advice given time after time in your 'Useful Hints,' *re* overhauling of stocks in the early spring months. I have always refrained from such a course; however, on Tuesday, the 5th, the weather being fine with a nice temperature, I took the opportunity of a slight examination. My three stocks, two bar-frames and one skep, answered to the 'roll-call;' No. 1, Bar-frame short of stores; cake of candy put on in October, '91, nearly gone. Brood on one frame only, some not capped over. No. 2, Bar-frame; part stores, brood on one frame, candy scarcely touched. Acted on advice given in last week's *Journal, re* bottle or pound or two of syrup at once, to be regulated subsequently on No. 1. Skep being like a sealed book, 'so to speak,' simply looked to see if candy was gone or not. Bees busy this last week on palms and the flower of the coltsfoot. Arabis just coming into bloom in this locality. With hopes and anticipations for a successful season, do you not think there should have been brood on more frames than one at this time?

[The season is certainly backward, but no doubt bees will soon show the beneficial effects of the present beautiful weather.—Eds.]

Queries and Replies.

[506.] Can you tell me the cause of the enclosed bees dying? I examined them three weeks ago, and they appeared all right, but not very strong. They had a little honey in their combs. I gave them a pint of syrup; but, owing to this beautiful weather, and their having a little store, I did not continue to feed them, as perhaps I ought; they had also some soft candy, put on fresh at the same time. They have been flying lately, but fewer and fewer went in and out of the hive; so I examined the hive to-day, and found all dead, and their store eaten and combs empty. I tried chloroform to quiet them when first examining, as I did on three other stocks, which are all right. Could this have been the cause of death, or is it starvation?—C. C., *Cambridge, April 6th*, 1892.

Reply.—The bees on comb sent are not those seen alive a week or two ago. These dried-up and mouldy bees have been dead for some time, and are a portion of the cluster which has succumbed earlier on in the year. As to the stock perishing, want of food is the primary cause, but it was not quite judicious to use chloroform as a quieting agent on bees already weak in numbers and short of food. The ordinary smoker would have been safer under the circumstances. Are you sure the stock was not queenless?

[507.] *Doubling.*—I have three stocks of bees, two of which appear to be strong. As I do not want to increase, my intention was to make a doubling box for one of the hives, for the purpose of doubling. In making this box—1. Should I make an entrance similar to the one in main hive? 2. And if so, would the excluder zinc answer for the floor of doubling box? 3. When would be the proper time to put on the top or doubling box?—S. Smith, *Penge.*

Reply.—1 and 2. In doubling, no entrance is provided in the upper hive. 3. The proper time for setting on upper chambers is when the lower hive is fairly full of bees, the weather warm, and honey coming in.

[508.] *Bees and Stored Pollen.*—Will bees carry soft pollen down to brood nest which is contained in cells of shallow-frame combs, *worked last year*, without excluder zinc? The queen evidently bred in these combs, but the pollen is confined to the lower portion, and the cells affected are not sufficiently numerous to warrant destroying the combs. I had thought of cutting the pollen out, but should like your reply first. I may say that excluders will be used in future. My bees came out stronger this year than last, and Mr. Carr's method of paper-packing has answered very well with me, the hive being perfectly dry and warm.—J. H. N., *Watford.*

Reply.—We never found bees using pollen stored in chambers above the brood nest, and therefore advise its removal by cutting out the pollen-filled cells.

[509.] *Preventing Swarming.*—Would not a Diaphragm Excluder, placed inside the front of the hive, prevent swarms absconding? Or in the case of frames running at right angles to front, a narrow strip of excluder zinc placed across the entrance and kept in place by the slides? Mr. Cowan, in describing one of Abbott's hives in the *Guide-book*, refers to the first-mentioned means of prevention. Last summer, after a Ligurian swarm had issued and returned, I nailed a Diaphragm Excluder across the porch, leaving no escape for the bees but by the perforations. The only nuisance was the drones trying to get out about midday, but this did not seem to trouble the workers much, as they simply crawled over them. I did not, however, consider this a fair trial, as I had previously cut out all queen-cells, so I had not the pleasure of seeing the effect when the bees possessed the swarming mania. I merely put it there in case of accidents, and just after the summer (?) broke up. I should not think this method of confining the queen to the hive worse, as affecting working bees coming in and out, than self-hivers, and these, if I recollect rightly, were well spoken of from time to time in the *B. J.* last year. At all events I should like to read your candid opinion on this, as following up and hiving swarms on other people's property is to me a nuisance, to say the least, and on the other hand a foot of excluder zinc, costing about 8*d.*, would cut enough strips for entrances for a decent-sized apiary. This is merely assuming that increase of stocks is not desired.—E. A. F., *Plymouth, April 6th*, 1892.

Reply.—The plan of using queen-excluding diaphragms for confining queens to the hive at swarming-time has been pretty well tried during the past ten years, and being generally unsatisfactory has fallen into disuse. The allusion in the *Guide-book* refers mainly to confining the queen to a certain number of the combs for breeding purposes, in what is called the 'combination hive,' while the others are reserved for honey-storing. The objections to the plan you propose will arise from the very restricted means of egress when the rush and excitement of swarming is on. At such a time the drones, in their endeavour to escape, block up the perforation, and serious mischief may ensue. Had so simple a method of preventing swarming been successful it would be generally followed, as it has had full trial.

[510.] *Queenless Stocks.*—Will you kindly tell me if I have done right in the following? Owing to the cold weather, I have not been able to overhaul my bees until this evening (April 2nd), when I find three lots queenless—or at least, there is no brood whatever in the combs, and I did not see a queen; I therefore took from my other hives a frame with brood in all stages in it, and put one in each hive, so that the bees may raise a queen. Have I done right in doing this, as I do not wish to unite them to my other hives? There are lots of bees in the hive, and will make good strong stocks. I suppose if they raise a queen, she will be fertilised in time for honey season; and when do drones first come? I do not wish to buy queens if what I have done will answer as well.—M. H., *Alton, Hants.*

Reply.—The fact of giving the supposed queenless stock brood and eggs will tend to decide the question of queenlessness or otherwise if you examine for queen-cells in a few days. In forward colonies drones will appear this month, but as to the bees succeeding in raising queens, and their becoming fertilised, that is a question which time alone can decide.

[511.] *Carrying Combs of Brood without 'Chilling.'*—I drove four skeps in the autumn, uniting the bees into two lots, one of which I gave to a friend living three miles away. I saw the queen of this latter lot, and she was all right at the final packing down for winter. I walked over yerterday to my friend's place, for the purpose of making a cursory examination. I found plenty of food, bees reduced half or more, and no signs of brood or queen. Am I to assume she is defunct? If so, what is the best course to take? Will it answer the purpose to take a frame of brood from one of my strong hives, and carry it to the above-mentioned? If so, how should it be done to prevent chilling? —Amaranthe, *Birmingham, April 4th.*

Reply.—If the hive has been properly packed for winter, breeding should certainly have begun by this time, but we should make quite sure of the queen's presence or absence before troubling to give a frame of brood and eggs. It may be safely done on a fine day if the comb is wrapped in warmed flannel and carefully covered up to keep in the warmth during the journey.

[512.] *Foul-broody Stocks.*—I send you herewith five pieces of brood comb, and shall thank you for your verdict on them. Are they affected with foul brood, or only chilled brood? They are taken from five different hives. I may say I bought the five hives last autumn, and they came a considerable distance by rail. I found

on examining them on arrival, most of the combs broken down and choke-full of brood, all apparently healthy. As they had stood out during the whole of a frosty night in a shed at the station, and the bees all clustering at top of hives, I considered all brood in combs broken down would be dead. However, I tied them in, and gave them a chance, but most of it never hatched. So I cut out all the brood as far as I could without cutting the honey at the top of the frames, and covered them all up, and thus they wintered, and were never examined again until this week, when I found all the queens but one laying, and pieces sent have been cut from brood nest. Though a bee-keeper of many years' standing I have no personal experience of foul or chilled brood. All my other fifteen hives are healthy. The five had come to me direct from the heather, and that accounts for so much brood so late.—CRITONIAN, *April 5th.*

REPLY.—All five pieces of comb sent are badly affected with foul brood; no doubt portions not removed last autumn. In view of the fifteen healthy stocks in close proximity, we should be strongly tempted to adopt very drastic measures for avoiding risk of infection. Meantime, a few pieces of naphthaline should at once be put on the floor-boards of all the healthy colonies as a preventive.

[513.] *Hiving a Swarm in a Photographic Camera.*—I have what I have reason to think is a strong stock of bees in an *old* straw skep, with hole at top, through which I have fed them last autumn and again now. I should like to get them transferred to a frame hive, and also, if I can manage it, to prevent them swarming, as I am so often away from home all day that I fear I should certainly lose the swarm. They seem to be very active now. Will you kindly advise me what to do? You may, perhaps, be interested to learn how I obtained them, as it is, I expect, an unheard-of event. I was out with my camera last July taking views of old ruins, &c., and towards evening came across a large swarm of bees in a hedge far removed from any farm or houses. Assisted by my brother I managed after long trials to get them into my *camera!* (an ordinary half-plate bellows), and took them home, a distance of about twelve miles, and transferred them to the old straw hive in which I have them now. I did not receive a single sting, though, of course, I was quite unprotected.—A. A. K., *Hastings.*

REPLY.—Full instructions for transferring are given in *Modern Bee-keeping*, which book you have. As you particularly wish, however, to prevent swarming, we think it would save the trouble and risk to a beginner of transferring if the frame tops of the new hive are covered with a thin board, in the centre of which is cut a good-sized circular hole. Set the skep on this, and the bees will transfer themselves to the hive below. Of course, the frames in the latter will need to be fitted with full sheets of comb foundation. At the close of the season the honey, which will be chiefly stored in the skep, may be appropriated.

[514.] *Comb-building and Supering.*—1. When is it safe to insert foundation for bees to work out? I want some drawing out to place in new hives. 2. Do $4\frac{1}{2} \times 4 \times 2$ sections sell as well as $4\frac{1}{4} \times 4\frac{1}{4} \times 2$, and do we need different crates for those two sized sections? 3. When is the proper time to super a bar-framed hive that we do not wish to swarm? 4. We also have straw skeps that we wish to swarm. Is it best to keep sections off them until they have swarmed? All our hives are carrying in pollen in large quantities. I really do not known where the bees put it. I think we must have early swarms this year.—WELLESLEY.

REPLY.—1. As soon as the hives are fairly full of bees. If, however, the foundation is placed between the combs of the brood nest, it is certain that eggs will be laid therein as soon as the cells are half drawn out. 2. Sections of different sizes cannot be worked in the same crates. Keep to the $4\frac{1}{4} \times 4\frac{1}{4}$ size, if possible. 3. Just so soon as the bees begin to want room and honey is coming in. The latter fact may be known by the 'whitened' appearance of the combs, as if the bees were lengthening out the cells for storage. 4. Yes.

[515.] *Beginning Bee-keeping.*—I have a great wish to keep bees, but as I know nothing whatever about them, I should be obliged if you would, through the *B. B. J.*, answer a few questions. 1. Could I keep bees with only the help of a book? 2. Will you kindly tell me of a good book, not very expensive? 3. Can a lady manage bees alone? 4. When is the right time to buy a hive of bees? 5. What kind of hive is best for an ignorant beginner? Information on the above points will greatly oblige.—GRANGE, *Hatfield, April 6th.*

REPLY.—1. Yes, any intelligent person with the aid of a guide-book can soon learn how to manage bees. 2. *The Bee-keepers' Guide-book*, price 1*s.* 6*d.*, to be had from this office. 3. Yes; we know several ladies who are successful bee-keepers. 4. For purchasing a stock or established colony April is the best time. For a swarm, May, if possible, or early in June. 5. A simple form of standard frame hive, costing about ten or twelve shillings.

OUR LIBRARY TABLE.

Since our last review of books we have received—

Almanach-Revue de l'Apiculture. By Abbé Voirnot, Villers-sous-Prény (Meurthe et Moselle). 75 centimes.—In this second year of its issue, the name of Review of Apiculture is very appropriate, as we find this little book full of articles giving the digest of some of the best articles that have appeared in various bee journals during the year. Abbé Voirnot is a ready writer, and has a very

persuasive manner of pleading in favour of his theories. He has also been assisted by several well-known bee-keepers, amongst whom may be mentioned Messrs. Dennler, Perin, Wathelet, and Genouceaux. The Editor of the *Apicoltore*, M. de Runscheufels, has an article on the management of a colony throughout the year. Our correspondent M. T. O. Andreu also writes about bee-keeping in Spain. On the whole, this little book is very interesting, and, being in short chapters, can be looked at occasionally, without requiring much time to be given to it at one sitting.

La Cire des Abeilles—Analyse et Falsifications. Par A. and P. Buisine. Published by the University of France in Paris and Lille (4 francs.)—This is the most important work that has been published on wax and its adulterations. The writers commence by giving the chemical compositions of beeswax, and reference is made to all the works published on the subject. The quantitative analysis is given in the next chapter, and here we find, amongst others, a table of the analysis of English wax, produced in eight different counties. The following chapter is devoted to wax produced by exotic bees. Bleaching wax and the composition of bleached wax occupy Chapter IV., while the following chapter treats of the adulterations of beeswax, and a careful description and analysis of the adulterants used. The seventh chapter treats on the analysis of wax and the various methods employed. There are 149 pages, and the work is beautifully got up, and will be indispensable to all who wish to know all about wax and its adulterations.

El Colmenero Espanol. By Enrique de Mercader-Belloch, Barcelona.—This is a new Spanish journal that has been started by M. Mercader-Belloch, the translator into Spanish of our *Guide-book*. After four years of publication, the *Revista Apicola*, the only Spanish bee journal, was given up by its proprietor at the end of the year; and it is to be hoped that this new venture may have the support it is expected to get, and fill the gap caused by the giving up of the *Revista*. M. Andreu was much to be commended for his enterprising spirit in starting his paper and carrying it on for so long. We wish M. Mercader-Belloch every success in his venture. The paper is well printed, and contains some good advice on the management of bees.

Nouvelles Expériences Pratiques d'Apiculture. Par Georges de Layens. Published by Paul Dupont, Paris. 60 centimes.—This is an important pamphlet, giving a detailed account of practical experiments carried out by M. de Layens, of importance to bee-keepers. The first chapter is devoted the experiments which show that it is advisable to allow bees to construct some comb. The various experiments are described in detail, and illustrated by woodcuts. The next chapter is devoted to uniting bees in the spring, which, according to M. de Layens, is not necessary. The third is on the uselessness of the division-board. The fourth on the comparison of single and double-walled hives. The next chapter is devoted to experiments on the preservation of honey. Another on the choice of a frame hive, with a note on rearing bees and the production of honey. The experiments are much too interesting for us to pass them over in a short notice like the present, and we shall hope to refer to them more fully, and translate extracts for the benefit of our readers. Anything coming from the pen of so experienced a bee-keeper deserves to be treated with the consideration it is entitled to.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Mr. G. Newman (57 Coldharbour Lane, London, S.E.) writes to say that if any reader of the *B.J.* requires seed of giant balsam or of single hollyhock—both good bee-flowers—he will send a little free to any reader enclosing him a stamped addressed envelope.

A. Sealy (Atworth).—1. The Secretary of the B.B.K.A. is Mr. Huckle, Kings Langley. 2. Of the Wilts B.K.A., the Rev. W. B. Burkitt, Buttermere Rectory, Hungerford. 3. Of the Warwick Show, Mr. Huckle. 4. Mr. C. S. Gough, North Street, Bury St. Edmunds. Any inquiries as to fees, &c., must be addressed to the respective secretaries.

G. E. Bolton (Yorks.).—There is no need to specially disinfect the hive so long as the bees have died of cold only. Such combs as are mouldy may be melted down for wax, but the clean ones will do for future use.

J. S. Warburton (Norfolk).—The insect sent is one of the common sand-bees now just beginning to appear.

Arch. Nisbet (Hamilton).—1. The books you have will supply all the information needed to enable you to become a successful bee-keeper. 2. You cannot do better than apply to the Secretary of the Scottish B. K. A. for full particulars as to the Scotch Societies, and experts' certificates. We do not advise your 'going in for bees on a large scale' until such time as you are thoroughly expert in their management and as to the probability of their doing well in your district.

F. Coulton.—There is no foul brood in comb sent. It is simply a case of non-fertilisation.

Mrs. Turner.—Many thanks for *Berks Bee-keeper*. We have sent a copy of *Gleanings*, as desired. You have done very well with your bees.

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Editorial, Notices, &c.

THE EDUCATIONAL ASPECT OF BEE-KEEPING.

The Annual Report of the Committee of the British Bee-keepers' Association for the past year, which has just been issued to members, is of more than passing interest at the present time, in consequence of the impetus being given to the pursuit of apiculture from an educational standpoint. In the report before us attention is very justly and specially directed to the success which has attended the labours of the Association and its affiliated branches in their efforts to obtain State recognition of apiculture as a subject for inclusion in any scheme of agricultural education which may be promoted by the Government of the day; and it is a source of legitimate congratulation on the part of all concerned to find that at the time we write the undermentioned County Associations are in receipt of Government grants to the amounts stated for the promotion of free instruction in the art of bee-keeping among the class to whom such teaching is likely to be of value:—

Kent	£125
Lancashire..	100
Cheshire	50
Berkshire	50
Essex...	50
Derbyshire	50
Oxfordshire	50
Warwickshire	50
Herefordshire	50
Northamptonshire	25

In addition to the above, several Associations have good grounds for hoping that a favourable response will ere long be given to their applications for grants. The total sum enumerated is certainly small, considering the extent of ground covered, but it may perhaps be regarded as an earnest of more substantial benefits to follow if the work hitherto done promises a commensurate return for an increased expenditure. More than ten years ago, according to the report, the B.B.K.A. endeavoured to secure Governmental recognition of the claims of bee-keeping by the appointment of a professor of apiculture under the Science and Art Department, and although not at the time successful in this respect, yet Mr. F. R. Cheshire was, on the recommendation of its Chairman, appointed lecturer on bee-keeping to the agricultural students at South Kensington.

It is also, perhaps, not generally known that, under the present Educational Code, bee-keeping may, with the approval of the managers, be taught in schools situated in rural districts. Now, bearing in mind the fact that Mr. Jesse Collings' Bill, to which reference was made last week, includes a provision for supplying the means wherewith thoroughly to carry out this kind of teaching — *i.e.*, providing the necessary equipment to make the course of instruction complete—it will be seen that, so far as present indications go, there is every prospect of advancement for the pursuit in which we, in common with our readers, have so much interest. We therefore cordially support the appeal of the Committee for financial assistance to enable them to meet the additional expenditure caused by the extension of the Association's educational work.

An Act of Parliament, under which (and for the purpose of teaching, among other subjects, bee-keeping) a grant is made 'for the expenses of providing such allotments, school-gardens, buildings, fittings, tools, and appurtenances as may be necessary to provide instruction under the provisions of the Bill,' opens up a picture of a school-garden, with its adjoining apiary, in which demonstrations of practical bee-keeping can be

given by lecturers, under the County Council scheme, surrounded by the most favourable conditions possible. Moreover, if the rural schoolmaster finds it to his interest—as he undoubtedly will—to qualify as a skilled bee-keeper, the boys under him will be enabled to carry with them to the end of their days a knowledge of the pursuit which to us of an older generation was altogether undreamt of.

THE 'MARSHALL' FUND.

We have received 2*l.* on account of the above from 'A Friend.' The amount has been forwarded to our trustee of the fund for Mrs. Marshall's benefit.

BRITISH BEE-KEEPERS' ASSOCIATION.

Candidates holding third and second-class certificates intending to compete for a first-class diploma on May 18th are reminded that notice must be given to the Secretary of the B.B.K.A. on or before April 30th.

HIVES FOR THE HEATHER.

Redshaw's Heather Hive.

This is the same size and style as the 'Royal Nottingham,' in fact they are interchangeable, and the illustration referring thereto, as shown below, gives a very good idea of it, if one shallow body is left out and Van Deusen clamps imagined as affixed on each joint at sides, and wood buttons at back.

As exhibited at Stirling (where it took first prize in its class), it consists of stand and legs framed together and separate from floor-board. The body-box contains ten standard frames, with W. B. C. tin ends, running at right angles to the entrance, and two clamped air-tight division-boards. It has a movable porch and entrance shutter combined, which can be fixed on any body-box or lift.

By an ingenious contrivance the entrance shutter is so arranged that by raising it the whole width of the hive can be used as an entrance, and when it is put down the entrance can be completely closed, or opened any width up to eight inches. Between the shutter and the slides is placed a strip of perforated zinc, to confine the bees and allow of ventilation when travelling to the moors. Over the body-box is placed a framed queen-excluder, and above it a shallow body-box, correct size to hold eight W. B. C. hanging frames of three sections each (not included), but, instead, it was fitted with ten 5½-in. frames and two division-boards, there being a ¾-in. 'rim,' or 'lift,' for placing under the section-frame body, when 5½-in. frames are used. The section rack is made to contain either seven, fourteen, or twenty-one sections at a time, and the three rows can be worked together, or each one separately. The lift is the same depth as a shallow-frame box, but in two parts, so that one of them can be used beneath the stock body-box in winter for ventilation, and the other on the top for winter packing, &c. In summer, the two parts are used together, and contain the section rack and wrappings. The roof going on over all is shallow and light, and of a style most likely to remain waterproof. The bodies are all double-walled, and in the front and back there are dead-air spaces, making the walls two inches thick; all the bodies are interchangeable, the joints being bevel rebated, so that they can slide one on the other and be drawn back again without crushing a bee. All are clamped together with Van Deusen clamps, and the roof and floor to them, so that they are 'as one piece' when it is desirable to remove them.

All the various parts of the above hive and its 'extras,' in shape of section boxes, hanging-frames, &c., are supplied in the flat or built up as may be desired.

Redshaw's Cottager's Heather Hive

is the same as the more expensive one in general appearance and construction, but rather smaller from the fact of its only being half the price. It is a very compact and useful hive for cottagers, bee-farmers, and those who move their bees to the heather. It has Van Deusen clamps to joints, which are bevel rebated, making it very rigid; has tongued and grooved floor-board, body-box, with loose porch, entrance, shutter, and ventilator combined; nine frames, with W. B. C. ends, and two dummies, rack of sections, lift, with loose inner walls (resting on angle blocks) for use with 5½-inch frames, if desired, and a good step-roof, all of good material and workmanship.

It can be had with six W. B. C. hanging section frames, with sections and dummy, instead of section rack, for a small sum extra.

This hive took first prize at the Birkenhea

Show last autumn, and was there considered well adapted for the use of cottagers and others desiring a cheap and good heather hive.

FREE INSTRUCTION IN BEE-KEEPING.

Another of the lectures recently inaugurated at the Yorkshire College, under the authority of the County Council for the West Riding, was given on Saturday afternoon by Mr. R. A. H. Grimshaw, the Hon. Secretary of the Yorkshire Bee-keepers' Association, in his bee-garden at Horsforth. The fine weather brought together a numerous company of visitors, who were, no doubt, anxious to combine the pleasures of an afternoon in the country with the instructive entertainment afforded by an *al-fresco* manipulation of live bees in their hives. For the convenience of ladies seats were provided at the side of a quadrangle in the garden exclusively devoted to bees, and a large screen of netting between the lecturer and his audience protected the visitors from attack from any evil-disposed bees, although, indeed, this was scarcely necessary. In the course of a very interesting and highly instructive lecture Mr. Grimshaw, who was ably assisted by Mr. W. Dixon, of Leeds, gave an outline of the natural history of the bee, from its early stages to full maturity, interspersing his remarks, as occasion arose, by practical illustrations of the best and easiest methods of feeding, the most suitable foods for different times of the year; natural and artificial swarming, with the use of the different appliances requisite on such occasions; the taking and straining of honey by the aid of the extractor; and the manipulation of bees in bar-frame hives, winding up an able lecture of over an hour's duration by a short description of what he considered the best blends of honey, giving his preference for a mixture of white clover and heather. At the close of the proceedings a unanimous vote of thanks was accorded Mr. Grimshaw for his address. It is the intention to hold the next free open-air class on Saturday, the 30th inst.

BEE LECTURES.

It is all very well for Mr. Grimshaw to give open-air lectures on the bee, but when is the Yorkshire Bee-keepers' Association going to evolve a bee without a sting? A race of stingless bees would enjoy the respect and confidence of every honest man, and we should appreciate the honey much better. At least I should. I have had but one fit of enthusiasm over apiculture. It was brief, but to the point. Seduced by the familiar, not to say contemptuous, manner in which a bee lecturer at an agricultural show treated his bees, taking up handfuls, weighing them in bushel-baskets, and letting them crawl all over him, I weakly consented to help a friend with his hives.

I did not know then that the lecturer had taken a mean advantage of his bees by making them drunk on the fumes of smouldering brown paper. I thought the bees were highly domesticated. My friend said his bees were also highly domesticated. They knew him and loved him. It was a beautiful afternoon when we went out into the garden. I remember the smell of the flowers there to this day. We wore gloves—not that there was any danger, you know; but just as a precaution, said the apiarist. Ah, well! there is no necessity to dwell upon what followed. One villainous bee led the attack; and in ten minutes I looked worse than a footballer after a cup-tie. To this day I have a great reputation in that place for bravery, because I found it necessary to say my appearance was the result of a prize-fight. The Stingless Bee is wanted Badly.—*Yorkshire Evening Post.*

WARWICKSHIRE BEE-KEEPERS' ASSOCIATION.

Technical Education in Bee-keeping.

In connexion with technical education, Mr. Webster has delivered lectures during the past week in the following places:—Shipston-on-Stour, April 4th; Southam, April 6th; Glascote, April 9th.—J. R. Ingerthorp, *April 10th*, 1892.

BEE-KEEPING AND GARDENING ASSOCIATIONS.

At the monthly show of the Rye and district Gardeners' and Cottagers' Mutual Association, held at the Coffee Tavern, Rye, on Wednesday April 6th, Mr. Masters read an exhaustive paper on 'The Management of Bees,' in which the whole subject was very fully and clearly explained to an interested and attentive audience, consisting of the very persons to whom the information conveyed is likely to be of service. The Rev. A. J. W. Crosse proposed, and his Worship the Mayor seconded, a vote of thanks to the lecturer, which was enthusiastically accorded.

THE WORLD'S FAIR AT CHICAGO.

It will interest such British bee-keepers or appliance manufacturers as may be found sufficiently enterprising to contemplate sending an exhibit to the apicultural department of the above exhibition to learn that there is every likelihood of the somewhat heavy fees for space (which we announced some time ago as fixed) being abolished altogether, and that no charge will be made for space in the British section of the show. We gather from a recent number of the *American Bee Journal* that the exhibits of honey will be shown in two glass cases, each 500 feet long by 5 feet wide, the bee appliances being staged on a platform 500 feet long. So extensive a display as this space affords room for has, we suppose, never before been seen, and we hope it may be well filled.

OUT-DOOR WINTERING OF BEES.

If bees can enjoy frequent flights, out of doors is the place to winter them. If deprived of these flights, a temperature of about forty-five degrees enables them to bear a much longer confinement than does a temperature below freezing. In the south, frequent flights are assured; in the north, no dependence can be placed upon the matter. Some winters are 'open,' or there are January thaws, allowing the bees to enjoy cleansing flights, while other winters hold them close prisoners for four or five months.

It is this element of uncertainty attending the wintering of bees in the open air that has driven so many bee-keepers to the adoption of cellar-wintering. Still, there are some bee-keepers who, from some peculiarity of location, winter their bees in the open air with quite uniform success; others are compelled, for the present at least, to winter their bees out-of-doors; in short, a large proportion of the bees, even in the north, are wintered in the open air, and probably will be for a long time to come, and while my preference is for the cellar, I have no desire to ignore the out-door method.

Protection and Winter Flights.—It does not seem as though the question of whether bees should be protected in the north need receive any consideration whatever; yet it has been objected to on the grounds that the packing becomes damp; that it deprives the bees of the warmth of the sun, and that they sometimes fail to fly in the winter (because the outside warmth is so slow in reaching them) when bees in single-walled hives may be in full flight.

There is occasionally a still, mild day in winter, upon which the sun shines out bright and strong for an hour or two, and bees in single-walled hives enjoy a real cleansing flight, while the momentary rise in temperature passes away ere it has penetrated the thick walls of a chaff hive.

On the other hand, there are days and weeks, and sometimes months, unbroken by these rises in temperature, and the bees must depend for their existence upon the heat generated by themselves, and the more perfect the non-conductor, by which they are surrounded, the less will be the loss of heat.

When bees are well protected, there is less necessity for flight than when the protection is slight. If the bee-keeper thinks, however, that bees in chaff hives ought to fly on a warm day, but they do not fly, he has only to remove the covering *over* the bees, and allow them to fly from the tops of the hives.

For several winters I left quite a number of colonies unprotected. I discontinued the practice only when thoroughly convinced that, in this locality, the losses were lessened by protection. In mild winters the bees came through in pretty fair condition.

In severe winters, the bees in the outside spaces, or ranges of combs, died first; the cluster became smaller, the bees in more ranges died, and by spring all were dead, or the colony so reduced in numbers, and the survivors so lacking in vitality, as to be practically worthless.

Ventilation.—I have never seen any ill effects from dampness, but I have always given abundant ventilation *above* the packing. When the warm air from the cluster passes up through the packing, and is met by the cold outer air, *some* condensation of moisture takes place. This moistens the surface of the packing slightly, but it is comparatively dry underneath. With a good, strong colony of bees, and ventilation above the packing, I have never known of trouble from moisture.

Chaff Hives.—In the giving of protection, chaff hives have the advantage of being always ready for winter, and of doing away with the labour and untidiness of packing and unpacking, but they are expensive and cumbersome. It is some work to pack bees in the fall, and unpack them in the spring, but light, single-walled, readily-movable hives, during the working season, are managed with enough less labour to more than compensate for that of packing and unpacking.

Then there is another point. The work of packing and unpacking comes when there is comparative leisure, while the extra work caused by having great, unwieldy hives, is brought in at a time when the bee-keeper is working on the 'keen jump.'

Dead-air Spaces.—Hollow walls, with no packing, have their advocates; and it has been asked if these dead-air spaces were not equally as good non-conductors of heat as those filled with chaff. They are not. In the first place, the air is not 'dead,' it is constantly moving. The air next to the inside wall becomes warm and rises; that next the outer wall cools and settles; thus there is a constant circulation, that robs the inner wall of its heat.

Early Packing.—Speaking of being compelled to wait about packing the bees until they were not likely to fly again until some time in the winter, reminds me that advantages have been claimed for *early* packing; that the bees in single-walled hives only wear themselves out with frequent flights that are to no purpose, while those that are packed are not called out by every passing ray of sunshine; that the early-packed bees sooner get themselves settled down for their winter's nap, and are in better condition when winter comes.

It is possible that there is something in this, but there were two or three years in which I tried feeding a colony or two as early as the first of September, and I continued to pack a colony every two or three days until the forepart of November, and I was unable to discern any advantage in very early packing. If the bees are protected before freezing weather comes, I believe that is early enough.

Space below the Combs.—There is one other point that ought not to be neglected in preparing the bees for winter, whether indoors or out, and that is the leaving a space below the combs.

When wintering out-of-doors, there ought to a rim, two inches high, placed under each hive.

This allows the dead bees to drop away from the combs to a place where they will dry up, instead of mouldering between the combs.

Then, if there is an entrance above the rim, there will be no possibility of the entrance becoming clogged. This space under the combs seems to be a wonderful aid in bringing the bees through in fine condition, and I am not certain *why*.

Weak colonies can seldom be successfully wintered out-of-doors. They cannot generate sufficient heat. In the cellar, where the temperature seldom goes below forty-five degrees, quite weak colonies can be successfully wintered.

As I understand it, this whole matter of out-door wintering of bees might be summed up in a few words:—Populous colonies, plenty of *good* food, and *thorough* protection. Simple, isn't it? Yet there is a world of meaning wrapped up in these few words.—W. Z. Hutchinson, *in the 'Country Gentleman.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

WILLOW HONEY—THE NEW SELF-HIVER.

[1000.] I think the bee-keeping fraternity may, as you say, safely congratulate Mr. Neve on the extraordinary collection of honey which his bees have made from the willows. It certainly does read like romance to hear of honey collected in sufficient quantity to fill sections so early in the season, but I can the more readily believe it because my own bees have also done well on the willows. I was not only gratified but greatly surprised on opening—'interfering with' is, I suppose, the proper term to use—two of my hives a week ago, to find a considerable quantity of new honey in the combs, a fair portion of which was sealed up, and which the bees could only have obtained from the willows. Since then operations have been entirely suspended, owing to a change in the weather bringing low temperature and snowfalls nearly every day. The female catkins of the willow yield nectar abundantly, as any one who examines them may readily discern. The honey, I may remark, is of the usual greenish hue peculiar to fruit-blossom honey.

Mr. Sheppard's self-hiver, as illustrated in the last issue of the *Journal*, appears to be a capital device. I have not yet tried any kind of self-hiver, and I am of opinion that from the best of them we can only hope for partial success.

I have an idea of my own to work out in the coming swarming season by which I confidently expect to accomplish what the self-hiver is intended to do, *i.e.*, to prevent swarms leaving undetected by the bee-keeper.—Alfred Donbavand, *Whitby Heath, Chester, April 18th*, 1892.

QUEENS FERTILISED IN FULL COLONIES WITH A LAYING QUEEN.

[1001.] On page 95 of the *B. J.* for March 10th, we are promised a continuation of Dr. Tinker's most interesting answer to my letters (646, p. 239, and 894, p. 596), for which we are anxiously waiting. They approach, in a way, the just now all-engrossing method of Mr. Wells' system, as reported on p. 132 of your issue for April 7th, but on different lines. I want a young queen, fertilised in a hive with a laying queen, not interrupting the breeding of the old queen (which always happens when a swarm issues), keeping her busy adding to the colony's population by preventing swarming, and substituting the young one later, to be reared in the same hive, for the old one to be removed when honey comes in freely, thus preventing over-production of brood, which would hatch out too late for the honey-glut, and which have to be taken into winter quarters as consumers only.

Mr. Wells' plan differs; he has two colonies at work for honey production, and, of course, expects the produce of honey from two colonies in each so-called one lot! Dr. Tinker writes: 'I consider this subject one of the most interesting that can engage the attention of bee-keepers at this time, since it is intimately connected with many of the most recent and valuable of our methods for handling bees for profit;' and answers my letters, two queens, separated by double-wall queen-excluder zinc, to exchange the old queen for a young one; *in this way* getting double population, by keeping the old one busy laying until the young queen is fertilised, and also busy at work doing her share of depositing eggs. He says: 'I put the virgin queen' (or an advanced queen-cell) 'in the lower story, and the mother queen in the upper, and found that the former was then never interfered with, but was fed and nursed up for the wedding trip in the usual manner.

I advocate *one* colony, with *one* entrance, dividing the former, and re-joining these two again into one, as such, with a double population.

Mr. Wells' method is a puzzle to many bee-keepers, as is shown by the necessity for the Editors' foot-note to 996, on p. 146:—'There is time to make arrangement for rearing nucleus

colonies during the present year from a swarmed hive, and let the trial of the plan of working two queens in a hive come on next year.'

Dr. Tinker's and my own humble idea can be experimented upon this season (1892) now before us. We will give it a trial, remembering his remark, 'No matter how and where the perforated zinc was used in a colony containing a laying queen, if the virgin' (advanced queen-cell) 'was so placed that an independent colony could be established, she would become fertile.' —J. G. K., *Grove House, Southborough, Tunbridge Wells, April* 16*th*, 1892.

[The footnote referred to was written with the object of inducing our querist to adhere to Mr. Wells' method pure and simple, without variation or adaptation of any kind, and we still advise those who may decide on making trial of it to do the same. There is surely no 'puzzle' about the simple details printed on p. 132, and those who heard the facts narrated were the more favourably impressed because of Mr. Wells having wisely deferred making his plan public till it had had a second season's trial. He then lost no time in giving to bee-keepers the benefit of the experience gained in actual practice.

That there is some analogy between the method above referred to and the plan advocated by 'J. G. K.' must be at once admitted; but, however much the ideas of our esteemed correspondent may agree with those of Dr. Tinker with regard to *securing the fertilisation of queens* in colonies with a laying queen, it is well not to have any 'mixing up' of plans or methods when considering the working out of the one followed so successfully by Mr. Wells, and in such footnotes as the one referred to our only desire is to keep correspondents in the 'straight track' when consulting us regarding the latter plan.—Eds.]

DAMP QUILTS.

[1002.] I have often observed in the *Journal* complaints of dampness of quilts over brood frames, and this is always attributed to leakage in roofs. Mine used to be very damp, sometimes quite wet after a heavy rain; and I never found out the cause until after using the cone super-clearers. Then, instead of covering the ventilating-hole in the roof with its wire-cloth again, I put in a large cork. This made the roof air and water-tight, and I have had no more damp quilts. Therefore, I have come to the conclusion that hive roofs are much better without ventilating-holes. Nobody would think of putting a chest of blankets in the garden all winter with a hole in each end of it, and expect it to keep dry!—Beeswing, *Carlisle.*

AN EARLY SWARM (?).

[1003.] I enclose a cutting from *Moray and Nairn Express* of the 9th April. Can this be a swarm under normal conditions? It would be interesting to know. I know the party who owns it, and I should like very much to examine the stock it came off, but distance and time prevent. His post town is Orton, Fochabers, N.B. —Alex. Strathdee, *Ballindalloch, N.B.*

'Early Bee-Swarming. — On Monday, April 4th, a swarm of bees belonging to Mr. Dean, carpenter, Garbity, came off. Mr. Dean was not aware of the fact till he went into his garden about six o'clock in the evening to feed his bees, when he observed the swarm in a berry bush. He thinks it will do well, although it is not what might be termed a strong swarm. Mr. Dean will show the swarm to any one who wishes to see it.'

[Noting the present very backward season, it seems absurd to suppose that the above is a natural swarm. The gentleman referred to may very fairly assume that it is a hunger-swarm from his own or some neighbour's hive.—Eds.]

Echoes from the Hives.

South Cambs., April 13*th*, 1892.—Bees on the whole have wintered well, with very few losses. Dysentery has been conspicuous by its absence, due perhaps to *good* cane sugar used for autumn feeding. Breeding seems to have been carried on pretty extensively in spite of confinement to hives during the early part of spring. Vast inroads have been made into the larder, and many are very short of stores now, especially where a young queen reigns. Queen-wasps are now getting numerous. Pollen now comes in pretty freely, and the work of water-carrying is pushed forward very vigorously in spite of east winds. Gooseberries out in full blossom, and fruit blossoms are beginning to burst. A warm rain and plenty of sunshine with *warm* nights are what we now want to make this season a success.—Nemo.

Queries and Replies.

[516]. *How to distinguish a Dead Queen from a Worker Bee.*—I am sure it will be of use to bee-keepers who are not too expert in distinguishing queens from large workers after death, if you were to give some simple plan by which the question could be decided without sending the dead bees to you. A friend found a dead bee on the floor-board of one of his hives the other day, and we had quite a discussion whether, it was a queen or a worker. Hence my query.—J. Patterson.

Reply.—A simple and sure test is to examine the hinder legs with a small magnifying-glass. If the pollen-baskets, *i.e.*, the hollows wherein the bee stores pollen, surrounded by the in-curved hairs from which the name basket is derived, are seen, it is certain the bee is a worker. Otherwise it will be a queen.

[517.] *Drones from Fertile Workers.*—Are drones from a fertile worker or an unfertile queen of any use for mating? I have given a frame from another hive to a queenless lot, and a queen-cell is started which I am afraid will be too soon for other drones flying.—R. HENSHAW.

REPLY.—The law of parthenogenesis is one of the marvels of insect life, and it is certain that drones produced by virgin queens and even by fertile workers are capable of all the functions of drones produced in the usual way. At the same time we do not consider there is any comparison between normal and abnormal drones for mating purposes.

[518.] *Removing Bees.*—I am about to remove my stocks to a more suitable place. The distance is not over one mile, and a lot of bees will doubtless return to their old place. How would it do to wait until I see the first batch of young bees sunning themselves before attempting the removal? By that time the old foragers will be about extinct. If done just now, I am afraid the combs might suffer from chill. When I do change them, I will place boxes to receive any wanderers, and carry them back to their respective hives.—W. R. L., *Liberton, N.B., April 14th.*

REPLY.—If the new location is a mile off, we would remove the bees at once. The longer it is deferred the more risk of loss, and there is no reason to fear that many of the bees will visit the old stand so early in the season in your northern location.

[519.] *Chilled Brood.*—Is the small piece of comb sent herewith infected with foul brood? There are about eight or a dozen cells each towards the outside of two combs in hive; the rest are all quite clean. I have never heard of the disease being in this neighbourhood. On the hive coming from the moors last autumn, the queen was found in a maimed state and no brood; she was replaced early in October. The new queen is breeding all right, and the brood looks healthy. Is it possible the few cells are bees not come to perfection owing to the weak state of the old queen, and have dried up? These cells are on combs drawn out from foundation last year, but are not on combs the present queen has bred on.—W. B., *Darlington, April 13th.*

REPLY.—There is no foul brood in comb sent. In view, however, of the few cells of chilled brood still in the combs, it will be well to use a small quantity of naphthaline on the floor-board as a preventive.

[520.] *Young Bees Thrown Out.*—I found one or two young bees which have apparently never flown thrown out of one of my hives. Does this indicate anything wrong?—J. MURTHWAITE.

REPLY.—Without more information than is conveyed above, we should say it is probably nothing more serious than a slight mishap, as when an unfledged bird falls out of the nest.

[521.] *Using Preventives against Foul Brood* —1. Is it advisable for an amateur to give anything as a preventive of foul brood, he not being aware that foul-brood exists in his own apiary or the neighbourhood? 2. Can you give directions for making a bee-dress for lady? 3. Do you suppose bees would gather a little honey as well as pollen during the few warm days we have had?—the bees worked very hard indeed; I do not know from what source they gathered the pollen, unless from palms and coltsfoot flowers. 4. I find a few 'spots' on outside of hives; am I to consider it a sign of spring cleaning or dysentery? I have been giving a little warm syrup in evening during April; have I done wrong? Sugar used was guaranteed free from beet and chemicals.—WELLESLEY.

REPLY.—1. Yes. Prevention is in this case so much better than cure, that a simple preventive of infection should always be put in hives, just as we medicate all food given to bees. 2. Ladies who are used to handling bees seldom use more than a simple veil to slip over the hat, similar to that worn by men. If, however, it is desired to have a body dress, a 'spencer,' or body with sleeves, is made, of coarse leno, reaching down to the waist, round which it is closely drawn by a cord. The part in front of the face is usually formed of black cap net. 3. Very probably they would. 4. A few 'spots' mean nothing beyond an ordinary cleansing flight on the part of the bees.

CONCERNING SUGAR HONEY.

The *Review* once said that a bee journal can excel only in bee literature, and advises us to draw down our faces and seriously shun all and every appearance of laughter, wear green goggles and a massive bandana, and be strictly conventional in each and all of our ways of life. Wal, I hev hunted Hippocrates for nigh onto forty years, and each and every such animal I have found in just such a hole as the above. Mr. Review, look at that sugar-honey article you printed lately. Why didn't you haul off, and give its author one right under the north-east corner of his eye, and give him to understand at once and for ever that your journal was not that kind?

Mr. Hutchinson says: 'While he has not a particle of doubt that a bee-keeper experienced in "feeding back"'—hold on, Mr. H., you mean 'experienced in deviltry'—could, with sugar and honey at present prices, produce comb honey. No, that's hypocrisy again; you mean comb sugar, at a profit by the feeding of sugar. Hold on, three lines back you said sugar and honey; yet you say you are not ready to advise such a course, &c. No, you aint quite ready, are you, Mr. H.? You say 'the publication of the "Hasty" article has been compared to the Wiley *pleasantry*.' You say what Wylie wrote was a *lie*—what Hasty has written is *true*. Blamed if I can see the difference between,

telling a lie and selling a lie. The *Review* says the only question is, whether it was policy to tell the truth. Yes, sir, you should cultivate telling the truth at all times. But was the *Review* trying to *mix* its truth, gently leading its readers by degrees to look upon adulteration of honey as innocent *pleasantry*, as he calls the Wylie lie? Such pleasantry has caused bee-keepers much sorrow, and it comes with ill grace from a man who makes fun of innocent, plain reports from bee-keepers, because said reports are not couched in high phraseology, but simply tell their little story which is dear to them. The *Review* says the Hasty article might do hurt if it got into the newspapers in in the same way that the 'everlasting clack' in them about adulteration prejudices the public against honey. You don't think so, do you? And who but yourself, Mr. Hutchinson, has given them more of that 'everlasting clack,' about the worst kind of adulteration, and then, with jovial complacency, you say—but among ourselves—in our own family—in our own class journals—it does seem that a man might speak his mind freely? Oh, verdancy! let's say that again — let's see — among ourselves — in our own family—in our own class journals. Draw the curtain, go behind the scenes, mix the honey and sugar—mum's the word. Hold on, the *Review* aint quite ready to do it yet; let's talk it over among ourselves, in our own family, &c. Newspapers are fools, we can keep this *sub rosa*—ah, me!—oh, my! Well, I know that any of the three bee journals that I take could't print the Hasty article and have it kept out of the newspapers; but the *Review* being in their own family, among themselves, perhaps will give less publicity to it. The *Review* says the Hasty article is heresy, but three lines further on he says heretical ideas are usually advanced ideas, shocking as they sometimes are, and as editor of the *Review* he feels like allowing free speech. Heresy is error. Now, does Mr. Hutchinson mean to say that he is a heretic, and means to let every heresiarch expound his ideas in his journal, upholding errors and spoiling our markets, advocating and quietly pushing forward adulteration of honey as a business? If he doesn't mean this, let him stand on the side of right, and frown with contempt upon every heretic or upholder of wrong as an editor should do, leading people right instead of letting himself drift with those who wish to do wrong. Lastly, the *Review* says: 'We little know what may come in the future.' No, you are right; and if all bee-men had such backs as yours, it would come altogether too soon. Your remarks are mysterious, and sound like adulteration. Do you mean to say the day is coming when men will make sugar for fun, and get the bees to store it in combs, and call it honey, when thousands of tons of pure honey go to waste every year for want of bees to gather it? If you do, then I say that every editor's chair should be filled by a man possessing backbone enough to give such shrinking pusillanimity, such foolhardy, ruinous manifestos as that which Messrs. Hutchinson, Hasty, & Co. have just delivered, their *quietus*.

Every honest man should abhor even the appearance of such evil. Some will rob in open daylight, but I despise a sneak who gets money by deception. The imagination cannot conceive a more pitiable specimen of humanity—a more contemptible piece of human flesh in the shape of a man—than the one, be he who he may, that, in the face and eyes of thousands of honest bee-keepers that have worked those many weary years to bring their profession up to a true standard of honesty and perfection, will, for paltry gain or selfish ambition, sow the seeds of distrust, discord, and ruin. I can scarcely leave the subject, it seems so terrible; but words are not adequate to express my abhorrence of people of such low degree. Feeding bees sugar, and selling the same sugar (for we know it remains *sugar*, if we know anything) for honey. A-i-n-t i-t n-i-c-e, grand, glowing, and peculiar aspirations? What a *Review!* Say: don't speak to me in the *Review:* I don't take it. If any one wants to ask my forgiveness, do so in the *C.B.J.*, which is the leading journal in Canada, or in the *A.B.K.* or *A.B.J.*, which are the leading journals in the United States.—JOHN F. GATES, *in* '*Canadian Bee Journal.*'

USEFUL NOTES.

1. The old foundation starters, which have not been worked out the past season, are glazed over with propolis, and are worthless, excepting for wax. Bees are very loth to work them out the following year.

2. Young swarms that have to build their own brood combs from starters make a finer grade of section honey than such as are hived on old combs. Somehow the colour of them is often transmitted to the sections in a measure.

3. The Porter spring escape works well, but should not be left on the hive longer than is necessary, lest it become propolised and clogged.

4. Much comb honey, when removed by the use of *any* of the escapes after the close of the honey season, will be found somewhat damaged, as the bees will more or less gnaw the cappings, and I am positive that not any returning bees do the mischief, but those present when the escape was interposed.

5. If sections become too dry to fold well, keep them in a cellar for a few days, and they will become damp enough.

6. Section-shipping crates, when made in as compact or as cubic a form as possible, answer very nicely for potato-crates. I use mine that way, but I had to nail on a few more slats to make them tight enough.

7. Separators are made too thin by some manufacturers. They warp and twist, and bees gnaw them. One-sixteenth of an inch is thin enough. I use them one-eighth of an inch thick, and those I have used since 1877 are as good for service to-day as they were then. They have given entire satisfaction, and I see

no reason why they should not last a lifetime with proper care.

8. Sometimes it is claimed to be an advantage that bees in single-walled hives realise more benefit from the heat-spending rays of the sun than such in double-walled and packed hives. This may be so, but I notice my bees in chaff hives always come out best at the end of winter, and breed up faster in the spring than anything I have in single-walled hives. My apiary consists of forty colonies in chaff hives, and eighty colonies in other hives.

9. Moss, as I find it here in the swampy forests, makes a most excellent packing material. It absorbs moisture readily, and does not become mouldy or caked. In Germany, moss is used largely for this purpose.

10. I have made the observation, that my bees in the cellar will endure a higher temperature (as high as 60° Fahr.) now than later in the spring, without showing any signs of uneasiness. This is one reason why I do not hesitate to put them in early.

11. The great honey-dew flow of the year 1889, I considered at the time a great calamity; but it proved a great blessing in the end. It furnished the bees with plenty of winter stores; and as the following extraordinarily warm and open winter furnished many opportunities for cleansing flights, all bees came out O.K. and did well.

12. Quite a number of my neighbours pronounced our honey-dew honey of 1889 very palatable. It nearly gagged me though.

13. Only fifteen miles separates my home apiary from that of H. L. Case, of Bristol, Ont. Co., N.Y. His honey-flow is mainly from white clover early in the season. It pays him to stimulate by feeding, which he does. He has a very practical little feeder tucked away under the cushion, with a little spout running to the outside of his hive. In thirty minutes, Mr. Case says, he can feed his 100 swarms, and not lift a cover. Again, in my location we have no honey-flow of any amount until July, and I prefer to discourage early breeding. If I don't, most of my colonies, particularly those in chaff, will literally run over with bees before I can profitably use them.

14. I was under the impression that you had promised to make an experiment with the horizontal honey-extractor, friend Root. The German inventor claims it is practical.

15. If you have more bees than you want, try my way of exchanging some of them for honey. It may not be anything new or original, but it will work just as well. (*a*) When your bees swarm, hive them into half-story chambers of a capacity not over 5 L. frames, all frames furnished only with narrow starters; place on an excluder, then one or two more half-stories with sections. (*b*) If you can so arrange it as to hive double swarms, all the better; also hiving single swarms on the stands of removed populous colonies works well; in fact, any way to get a heavy force of bees answers with my methods. (*c*) The section honey such colonies produce is always of a snowy white, and of superior quality, because built fast, and the amount is not to be sneered at. (*d*) When September comes, the little brood chambers contain almost no honey, and only a small colony of bees. Two and two of them must be united, and feeding must be resorted to. (*e*) If but few swarms are cast, treat a part of the old colonies as follows: Take all brood combs from them, and hive each colony at the beginning of the honey-flow into one of the half-story chambers, as explained above. (*f*) The gained brood combs are to be placed over queen-excluders on the tops of other colonies—even such as have swarmed, and they will almost always be found well filled with honey and some pollen. They are just right for winter stores for those same colonies they were taken from. One set of such combs will usually suffice to winter two full-sized colonies. (*g*) If you should have more such combs heavy with honey than you can make use of for winter stores, better save them for spring feeding. (*h*) By the use of old combs, particularly when pollen is present, a fine article of extracted honey cannot be produced.

16. If you place brood combs with any drone brood over excluders, be sure a small entrance is provided for the escape of the drones. I should not want to enclose such combs in a brood-restrictor.—F. GREINER, *in* '*Gleanings.*'

TRADE CATALOGUES RECEIVED.

T. B. Blow, Welwyn, Herts, 60 pp.—This very comprehensive list of bee-goods has some additions to the issue of 1891 by way of such novelties as are found worth reproducing. It is an exceedingly well got-up catalogue, full of excellent engravings.

J. Trebble, South Molton.—A good variety of hives and appliances are included in Mr. Trebble's list. But the illustrations (apparently drawn and engraved by an amateur engraver) scarcely do justice to the goods depicted, many of which have taken prizes at important shows.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN H. HORN.—Queen sent is a hybrid, but of what variety is not clear as the markings are very indistinct.

H. ATTFIELD.—Bee is not a queen, only a worker. For a simple method of deciding on the identity of queens and workers, refer to query No. 516 on p. 156.

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE: KINGS LANGLEY, HERTS; AND
17 KING WILLIAM STREET, STRAND, LONDON, W.C.

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In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

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2. **Deposits.**—Postal Orders (drawn on General Post Office) and Cheques must be made payable to John Huckle, and crossed 'Bucks and Oxon Bank.' The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. **Honey on Approval.**—All honey will be sold by sample, which must be sent direct to buyer.

4. **Bee-appliances.**—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. **Bees and Queens.**—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. **Goods in Transit.**—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. **Carriage.**—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 514. Vol. XX. N.S. 122.] APRIL 28, 1892. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—'Oh!' said a bee-keeping friend the other day, 'this *is* weather for the bees, and no mistake!' Few will dispute the appositeness of the italics, seeing that for several days past beautiful weather has prevailed nearly all over the kingdom. In the southern and south-eastern counties we have had brilliant sunshine and warmth sufficient to make bees turn out in force, and work with an amount of energy quite inspiriting to the onlooker who is a bee-keeper. The very odour of the hives is redolent of newly gathered nectar, and gives promise that, with a continuance of the present weather, supering will soon be the order of the day. Bearing in mind, also, that the genial warmth and sunshine come simultaneously with the earliest blossoming of the fruit-fields and orchards, it is safe to assume that we shall have a good spring crop of honey in fruit districts, and that there is no likelihood of a recurrence of the too-often disappointing time of honeyless fruit-bloom, such as occurs when the blossoming period is marked by cold winds and a low temperature. Some rain we have had, but not too much, and just the warm rain which causes rapid growth in all vegetation. Taken altogether, it may be said that those who, like bee-keepers, are interested in all that grows in nature, will be well satisfied with the weather conditions of the present month.

SUPERING.—Our northern readers will, we trust, pardon us for naming such an operation as 'supering' bees in April. All the same, it is quite possible—nay, probable—that not only will surplus chambers be on the hives, but that in some parts of our southern counties bees will be putting something *in* them, and that before many days are over. And so we urge that no time be lost in arranging racks of sections, and selecting boxes of ready-built combs for immediate use, so that as soon as brood chambers are full of bees, or cover nine or ten frames, room may be given at once in all districts where fruit-bloom abounds. In setting on surplus chambers at this early season extra care should be given to making them as warm and cosy as possible. If there be any opening at the junction of hives and supers which will admit cold air, we always fill up the interstices with strips of paper folded, besides adding to warm wrappings wherever needed.

SWARMS.—Careful watching and the giving of timely room should be of especial service this year in preventing swarming, seeing that the good weather is already with us before populations have reached boiling-over point. Bees will thus not be so easily smitten with the swarming fever as when the hot weather comes suddenly on us about the middle of June. Preparation should, however, be made by getting a few sets of frames fitted with foundation ready for use, as well as to have empty hives cleaned and disinfected ready for swarms. So advantageous is it to be beforehand with all work connected with bee-keeping, that one cannot too often repeat the advice to 'have everything ready for use a week before it can possibly be wanted.' Untold comfort would be the result if this paragraph were always kept in mind. Should swarms issue before mid-May, feed them for a week after hiving in all cases.

FEEDING.—In some parts feeding will be now worse than useless—say, in our own county of Kent, where hundreds of acres of fruit-trees are now in full bloom everywhere around, and the weather just what is wanted for ensuring the visits of the bees to the forage. In other parts of the kingdom the present warmth and the activity on the part of bees, along with a total

absence of pasturage, makes feeding more than ever a necessity. It should, therefore, be borne in mind how different is the treatment required, or how completely 'circumstances alter cases' in bee-management, as well as the fact that the consumption of food in May is largely in excess of that required in the earlier months of the year. Feeding may be necessary in some parts at a time when supers are being filled in others, and so we can but advise all to be watchful as to scarcity of food in hives until such time as it can be had from natural sources.

CLEANING FLOOR-BOARDS.—This useful—and on sanitary grounds, very necessary—spring operation should not be neglected, as it too often is by careless bee-keepers. A considerable amount of *debris*—better call it rubbish—sometimes accumulates on floor-boards during winter, harbouring vermin, if not the germs of disease; and, if only for the sake of cleanliness, this should be removed and burnt. The floor-board, after scraping and brushing, may then have its complement of naphthaline—if used as a disinfectant — renewed for the summer season. The *dose* should not exceed a quarter of an ounce of the kind sent out from *this office*. We use the italics because of the risk of 'overdosing' if stronger kinds are used.

ROYAL AGRICULTURAL SHOW AT WARWICK.

Should the present very favourable weather continue, there is every reason for hoping that a good display of this season's honey will be staged at the 'Royal' Show at Warwick in June next. The element of uncertainty, however, which always attends shows held early in the season, might perhaps deter many from incurring the cost of making entries for honey which may not be forthcoming in time. To meet this difficulty arrangements are made whereby the sums paid for entries are returnable under the terms of the 'Special Notice' sent out with the schedule of prizes, which reads as follows :—

'In the event of exhibitors in the Honey Classes not being able to send their exhibits, owing to unfavourable weather for honey gathering, the entrance fees will be returned, provided that six clear days' notice has been given of their inability to send these exhibits.'

The opportunity is thus afforded for entering at once, and if supers are unfilled, or sections still remain unfinished on June 14th, the loss to intending exhibitors is avoided. Entries close on April 30th, but post-entries may be made up to May 12th on payment of double fees.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of March, 1892, was 3728*l*.—*From a return furnished by the Statistical Office, H.M. Customs.*

NORTHAMPTONSHIRE BEE-KEEPERS' ASSOCIATION.

The fourth of a series of lectures on the 'Best Methods of Bee-keeping' was delivered by Mr. Edwin Ball on April 22nd, at Badby. There was quite a large audience (nearly sixty adults) for so small a village. Badby is situated in a snug hollow, and abounds in fruit-trees, plum-trees being especially numerous and suggestive of a bee-keepers' paradise. There were a goodly number of bee keepers present, mostly skeppists, to some of whom comb-foundation was a revelation. Super-clearers, too, took their fancy amazingly, as being just the thing to help them over the difficulty of clearing bees from their straw skeps; the Cheshire robber-trap was closely scrutinised as something likely to be useful, and the lecturer's description of the method of using sectional supers on skeps appeared to attract the attention of a good many present. By the kind assistance of Mr. J. Bird, of Daventry, the lecturer was able to make a good display of hives and appliances, which were carefully examined by old and young. The Rev. W. Scratton took the chair, to whom hearty thanks are due, as are they also for his efforts in securing so large an attendance.

IRISH BEE-KEEPERS' ASSOCIATION.

The Annual General Meeting of this Association was held on the 21st inst., the chair being taken at first by Rev. Canon Sadleir, afterwards by Mr. John Henderson.

The Report for 1891 was adopted. The number of subscribers has somewhat increased since 1890. A depôt has been established, with good results, in Cork, for the sale of sections, in addition to the depôt that has long existed in Dublin for the sale of honey in any form. Altogether over 5000 pounds of honey were sold for members through the Association in the course of the year.

Lectures on bee-keeping were delivered by Mr. Read at the Parsonstown Agricultural Show last August. A honey-ripener has been added to the appliances kept by the Association to lend to members. The practice of sending packets of Naphthol Beta and naphthaline (obtained from the office of the *British Bee Journal*) free of charge to members who apply for them, has been commenced, and will be continued till further notice.

COMB FOUNDATION.

Among the indispensable articles of use in modern bee-keeping, none is of greater importance than comb foundation. Its use is of comparatively recent origin. So far as we have been able to learn, the invention is due to a German named Kretchmer, who, about the year 1843 used strips of tracing linen, which, after being dipped in melted wax, were passed between engraved rollers. Our own experiments with similar material lead us to conclude that this form of foundation could not have been much of a success. We have found that where any fibrous material, especially of vegetable origin, is used to strengthen the sheets, the bees invariably tease it out.

Another German, Mehring, invented, about the year 1857, wooden moulds in which the wax was cast. These subsequently gave way to metal plates, between which soft sheets of wax were pressed. These plates impressed only the actual mid-rib of the comb, and gave no side walls to the cells. The sheets formed by them were neither regular in thickness, nor were they strong enough to support the adhering bees in a swarm, except when used only an inch or two in depth. Yankee ingenuity added the side walls and then invented the present method of impression by means of engraved rollers.

It is mainly owing to the strength imparted to the sheets by these side walls, those of each hexagonal cell forming two arches inverted, that we are now able to use sheets of the full depth required for combs in any ordinary hive. A kind of foundation is made with flat-bottomed cells, but this lacks the rigidity which the corrugated form of mid-rib in a natural comb exhibits, and can only be used for brood combs when strengthened by wires. Wired foundation, of whatever make, has however two great disadvantages; it is troublesome to fasten, and so far as our experiments have gone is fatal to all the grubs that chance to be in the line of the wires. Various other forms of foundation have been tried, and all, even that with square cells, have had some success, but none is now so universally approved as that made with natural-shaped cells, provided the material and manufacture be right.

Our own experiences with comb foundation commenced with that pressed between metal plates, and we remember how delighted we were to find how straight and regular our combs became compared with those formerly guided by strips of old comb glued to the bars. Being favoured with a few pounds of Root's early make of rolled sheets, which the late John Hunter kindly sent us about 1875, we at once saw the superiority of the latter, and the year after we became the happy possessor of a machine of our own, the first of the kind we believe on this side of the Atlantic. After using several newer forms of machine, we still prefer the original Root machine, that gives us the true hexagonal cell with rhomboidal mid-rib. Weight for weight it gives us the strongest sheets, those we generally use running seven to the pound, standard size.

For the body of the hive, only strongly made worker foundation is used, and that of good yellow colour. The darker the shade, provided it be not the result of burning or of dirty admixture, it seems if anything to be the stronger, and as acceptable to the bees as the lighter-coloured. For use in surplus boxes, or supers, where the comb is meant to be eaten, only the finest quality should be used, as thin if possible as the natural comb and almost as white. Even then it is well to be sparing of its use, as in certain circumstances the bees do not take pains to thin it down, and it becomes observable when the comb is cut up for table. Some prefer drone-cell foundation for supers, but it presents so strong a temptation to the queen to set brood in, especially when drone comb in the body of the hive is almost entirely excluded, that more than ordinary risk is run of having the supers spoiled by brood. Besides, it is only in special circumstances that the bees will build it out at all; that is, when they either wish it for breeding purposes or for a honey-glut. In the case of a season rich in bees but poor in honey, breeding in supers is the rule, and we decidedly prefer workers to drones when it is a necessity to have either.

The following are some of the advantages of the use of this modern aid to bee-keeping. Straight combs are ensured exactly where required, and all worker cells as desired. The bees are furnished with the greater part of the materials required to finish the comb, for they are so economical of material that they thin down the sheets given them, and use the excavated material to extend the cell walls. Thus the exhaustive work of secreting wax is avoided, and the time and honey consumed in its production are saved. A large force of bees that would otherwise have had to remain quiescent while the wax was being formed from their bodies is set free for foraging abroad. The combs of supers may be built out before the glut of honey comes, so that when it does come there is abundance of room for its storage. In the case of swarms, a few hours are sufficient to supply cells for egg-laying or storage purposes, and the whole hive may be filled with combs in as many hours as otherwise might have been days. From the regularity of their construction they occupy less space in the hive than natural combs, and each comb affords a large number of cells for brood. Combs built on foundation can, with care, be emptied of their honey by means of the extractor as soon as filled, while natural combs in like case would almost certainly collapse. With sheets of foundation, bees, saved from hives taken for their honey in the autumn, can at very little expense be fed up to good stocks; and, being beyond suspicion of infection, they are at all times safer to use than natural comb, especially in localities where the scourge of foul brood is known to exist. In our own practice we even prefer a frame filled with foundation to one of comb for increasing the

brood nest in spring, the queen as a rule depositing her eggs sooner in its cells.

To fasten the sheets securely into the frames there are various devices. Many have their frames made with a divided top bar, one half only being nailed before putting in the sheet. The latter is then inserted, and the other half nailed down, an additional wire nail or two being driven through both halves of the bar and sheet. Others have the top bar grooved only, melted wax being run in after the edge of the sheet is inserted. Many, chiefly Americans, have their frames threaded with some four or six upright wires and a couple of diagonal ones. The sheets are passed between these wires so that some are on each side, and the wires are afterwards embedded in the wax by pressure. This latter plan enables sheets to be safely used that touch the frames all round, and makes the whole strong enough for travelling, which is useful when one deals in stocks. We ourselves have always preferred the melted wax plan. First of all we cut the sheet to half an inch less than the inside dimensions of the frame. This gives room for the inevitable expansion under the heat and weight of the bees. We also use a contrivance for holding both the frame and sheet securely while waxing the joint. It consists of a board cut so that it fits inside the frame, but has stops to prevent it from going more than barely half through. To the stops are attached grips that take hold of the frame ends, and part of the board next the top bar is cut away, so that we can reach the junction of the sheet and top bar from the back as well as the front. The frame is first secured in this holder, the sheet is then laid in its place, the whole being held in one hand, top bar down and sloping. From a simple smelter a few drops of hot wax are run on the higher end of the joint, and allowed to run along to the other end, which is then at once raised to a horizontal position. Still holding all firmly together, the whole is reversed and wax run along the other side of the joint. The moment it cools sufficiently the top bar is brought to its proper position, the catches released, and the frame with adhering sheet set into a box or square hive till wanted.

We have been thus particular in describing this process because we find many fail to get a good joint by other methods. All attempts to steady the sheet and frame while running on the wax without some such apparatus are liable to leave poor work. Either the sheet has slipped from its proper place in the centre of the frame, or the joint opens before the wax has set, or an immoderate quantity of wax is used, or the whole drops out on reinverting the frame. Even though apparently secure, there are apt to be flaws in the joint which give way inside the hive, and cause great annoyance. We prefer a similar plan in fixing our starters in sections, only as it is here sufficient to wax one side only, a very simple block is used on which to lay the strip of foundation so as to bring it to the centre of the bar, and exceedingly little wax is used.

Failure in the use of brood foundation may result from either of the following causes:—

1. The material from which the sheets are made. This should consist of pure beeswax only, and even then of wax in its natural unbleached condition. Bleaching hardens the wax, apparently the result of the oxidation of the propolis it contains, and which gives the yellow wax both its colour and softness. There is a process of separating the wax from the refuse, while rendering the combs, by means of powerful acids, and which we can quite believe would to some extent spoil the wax for foundation; but we have not had the opportunity of experimenting on this. Paraffin, ceresine, stearine, vegetable wax, and other cheap adulterants are largely used by refiners of wax. These may do little harm and much good when candle wax is wanted; but they are utterly ruinous to comb foundation. They lower the melting point, tend to disintegration of substance, and in some cases make the wax nauseous to the bees. Pure beeswax should stand to a melting point of about 160°, and will never in ordinary temperatures melt, or even unduly stretch, inside a hive.

2. Faults in the making of the sheets. The wax, before being impressed, has to be formed into flat sheets by dipping wet boards into melted wax. If this is too hot these sheets tend to crack in cooling. The flaws are generally lengthways of the sheet, and not always visible. After being embossed, such flaws are the weak parts of the sheet, and often give way in the hive. Air-bubbles that get lifted with the dipping board, and then run down its surface before the wax cools, leave behind them a thin track, which also becomes a weak part in the sheet. The edges of the sheets, unless well pared, are also thinner than the rest, and may lead to a fracture of the sheet close to the top bar. All such faults can easily be observed by holding the sheet between the eye and a window. Those that are right are uniform in texture and thickness, and show no flaws.

If the sheets are dipped too thin they do not contain enough wax to fill the grooves in the rollers that form the cell walls, and an important element of strength is thus lost. The mid-rib may be excessively thin, and yet no harm result if the side walls be fully raised. A glance along the surface of the sheet, between the eye and the light, will reveal any such deficiency. We find we can make perfect sheets on the original Root machine that weigh seven to the pound, standard size, though on the later machine only five or six can be got.

3. Breakdowns may also occur from insecure fixing in the frame, from an accidental crack got in handling the sheets when too cold, or in moving the hive or box containing them; allowing the temperature of the hive to reach an abnormal height; or in trusting to the sheets alone to support the weight of a large swarm during very hot weather. This brings us to consider the most profitable way to make use of this modern aid to bee-keeping.

Use with Swarms.—Presuming that ordinary sheets are used without wire or other supports, caution must be observed. It may be the swarm is a large one from a supered stock, or a double swarm, in which case it will require the whole of the usual ten frames of space. If worked-out combs be available, they should then be used alternately with wax sheets. Otherwise, the whole of the frames may have full sheets, and the following precautions used. 1st.—Have the new hive, with all its frames in position, located and levelled on the stand it is to occupy before introducing the swarm. 2nd.—Introduce the swarm, towards evening, by casting it down in front and allowing the bees to run in at the doorway; all this to save jarring, and to bring the weight of bees to bear gradually on the sheets. 3rd.—Leave the whole doorway open and the front slightly tilted till all the bees are settled inside, and have only a single thin quilt laid over the frames, enough to confine the bees below and yet allow of perfect ventilation. 4th.—In three days or so turn the three or four outer combs so as to counteract the tendency towards having them drawn towards the centre of the hive, and to ensure their being equally worked out on both sides. Similar precautions should be used even with small swarms, with the addition that after the bees are quietly clustered inside they should have a loose-fitting division board inserted, so as to confine them at first to as many frames as they can conveniently work on at once, more room being given as the first sheets are found to be thoroughly drawn out.

(*To be concluded in our next.*)

THE GRADING OF HONEY.

Of all the intricate problems connected with bee-keeping, I believe no one has puzzled or perplexed me more than that of grading or selling honey. Year after year I have longed to put those perfectly filled and finished sections of snowy whiteness by themselves as my highest grade; those a little travel-stained, or slightly coloured, or a little imperfect, in the next grade; those containing some dark honey or badly stained, or quite imperfect, next; and light, unfinished sections, in still another. I have talked the matter over with wholesale dealers, and almost without exception they have advised me to put my pet first grade with my second, as there would be more money in it for me, and less trouble in selling for them. (It will be remembered that upon the Committee appointed by the North American Convention on the grading of honey, four were honey dealers, some of them representing some of the largest houses in the United States. I wonder if there were any dealers on the committee at Chicago? If not, this may in part account for the marked difference in the rules adopted.)

[It contained dealers; and dealers took part in the prolonged discussions preceding the adoption of the rules.—Ed.]

Now, this putting those absolutely perfect sections with those a little imperfect has troubled me, and I have, from year to year, asked those who handle my honey if my grading was satisfactory, and I do not now remember of any one, except myself, who was not satisfied.

I remember some years ago tramping the streets of Boston for the sole purpose of looking up the retailers of my honey, to learn if they were satisfied with my grading. In one grocery store, where I found my honey on sale, I noticed some combs in an open case that had been injured by careless handling. I inquired of the proprietor how he managed to dispose of such damaged combs. 'Oh,' he replied, 'some of my customers are particular and some are not,' and he gave me to understand that those who were not, got the damaged boxes, and were as well pleased with them as the other class were with the perfect combs. 'I looked on and received instruction,' and have many times since wondered if honey-producers were not far more fastidious in their choice of honey than the average consumer.

There is another side of the question. The *whitest* combs do not always contain the choicest honey. For my own eating I much prefer a comb that has remained a month or more on the hive with a strong colony in it to a comb taken from the hive as soon as sealed, however white it may be. In a neighbouring town, a honey is produced at the close of the basswood season, from which the bees construct the whitest of combs, but the flavour of the honey is *execrable*. Who shall say that these whitest combs alone are 'fancy,' and all other inferior? Is there not a little danger of our following too closely the 'colour line?' Should not the palate have supremacy in these matters?

And this reminds me that it is quite as important that honey be *classified* as graded. Would it not simplify matters to place all honey in three classes, say 'white,' 'amber,' and 'dark,' or 'buckwheat?' Then each class can be subdivided into three grades if you please. This will give ample room for all honeys produced in this country, except Aphis honey, which should not be offered for human consumption, except, perhaps, a very small per cent. mixed with other honey.

I see no good reason why the producer of a first-class grade of buckwheat or golden-rod honey has not just as good a right to label his honey 'Fancy B,' or 'Fancy G,' as the clover honey-producer has to label his honey 'Fancy C.' Let each grade be described by a descriptive adjective rather than a comparative one. 'No. 2' or 'No. 3' will be sure to prove unsatisfactory.

But I wished to speak of another thing. The weight of sections was not mentioned in connexion with the rules laid down by the Northwestern Convention, nor at Albany, and, perhaps, wisely; and yet, the weight is of quite as much importance in grading honey as some other things

it seems to me. Although the weight may not be a quality of a given grade of honey, yet it is a most important factor in its sale. Let me illustrate. Of the first 500 cases of honey I put up last summer, I suppose 480 cases were marked '20 boxes 20 (lbs.) net,' or '25 boxes 25 (lbs.) net;' each case containing exactly as many pounds of honey as sections. Suppose I had made two grades of the lot, what would have been the result? It is easy to be seen that the highest grade containing the best-filled sections would have weighed twenty-one pounds per case of twenty sections, while the other grade would have weighed but nineteen pounds. Now, if the honey so graded had been placed upon the New York or Boston markets, how would it have been sold? Do you suppose the best grade would have brought a cent a pound more than the other? I doubt it. Why? The greater weight would have balanced the extra appearance of the higher grade. At the same price per pound a case of the best grade would have cost the retail merchant thirty cents more than a case of the lower grade, and as he sells by the box and *not* by weight, he would be very slow to offer more than that. But some one will say my sections are too large. I think not. Two years ago the same size of case of twenty sections that averaged twenty pounds this year, weighed only about eighteen pounds to the case; honey not being so abundant that year.

In all my experience of marketing honey, nothing has surprised me so much as the difficulty of getting prices to correspond to the quality of the different grades of honey. I usually make three or four grades of my honey, and have not infrequently received as much into two or three cents per pound for my poorest grade of white honey, composed of light, unfinished sections, as for my best grade. I can only account for it on the theory that the consumers are 'not particular.'

I believe it is important to have a system of grading well known from one end of the country to the other, as an ideal that honey-producers may approximate, but doubt if it will be possible for producers living in different sections to grade their honey so nearly alike as to be able to sell by grade *alone*. The appearance of comb honey, gathered apparently from the same sources, varies greatly in different localities; a few miles will sometimes make a great difference. I believe honey should be graded and sold as are the semi-tropical fruits—by sample, and the marks of the producer. In this way I have seen a cargo of thousands of barrels of Malaga grapes, with oranges and lemons, sold in an hour's time, although produced by many different persons. A single package is shown to represent each mark, and then the whole of that brand struck off to the highest bidder. I do not mean that honey should be sold by auction, but that each producer's mark should accurately represent, from year to year, the different grades of honey he produces. These grades should approximate local or national standards so far as practical, and each case in every grade fairly represent every other case in the same grade in both weight and quality, if we desire our honey to become more and more a staple article of commerce. My crop of comb honey this year was 21,000 lbs.—J. E. CRANE, *in 'Bee-keepers' Review.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SPACING BROOD COMBS.

[1004.] Some four or five years ago, when I had the bee-fever badly, and caught eagerly at anything new, I read of several bee-keepers who worked their bees on frames spaced at $\frac{1}{4}$ inch or $\frac{3}{8}$ inch distance apart instead of the usual $\frac{1}{2}$ inch. Of course I must try this (to me) new thing also, and having two or three hives with village-made frames strong enough, one would think, to carry a hundredweight or so of honey each, to say nothing about the fit, I determined when transferring the combs from these into proper frames to work them at from $\frac{1}{4}$ inch to $\frac{3}{8}$ inch space between each comb. I will not trouble you with a description of the *honey-glut* that was 'on' when these stout combs were being pared down and put in proper shape for the bees. What a time they had, to be sure! But eventually the troublesome task was over, and to make a complete job of it the combs of my other hives were treated in the same way. This work was done in the spring just as I was able to get at it, as my time for bee-work does not commence until 6.30 p.m. I was, however, delighted with my work, the scarcity of drones showing how well the narrow spacing accomplished this end. This reducing to the $\frac{1}{4}$ inch distance gave me two frames more per hive. Far less honey was stored below and the amount of brood hatched was astonishing, and the bees not being able to store so much honey in the brood chamber were early in the supers and gave a good account of themselves, several hives (I usually keep about ten) running up to the coveted 100 pounds, and occasionally a little over. I saw the first winter approach with some misgiving, because when putting up the bees in the

autumn I was prevented, by pressure of other work, from spacing out the frames wider apart for wintering on—as we are told not to fail in doing—and the bees were left on combs with only ¼ inch to ⅜ inch distance between. But when the spring came round I was relieved of my fears, every stock answering the roll-call. In all other respects except space between combs, the winter preparation was as usual. That was a mild winter, but I could not perceive that my stocks were either stronger or weaker for wintering on the ¼-inch space.

Another spring and another summer confirmed my first experience, and a second autumn found me quite convinced it was not necessary to alter the space at all for wintering, with the result that my bees were packed up for a second winter on the same plan. This was a more severe winter than the preceding one, but the result in spring was about the same. To cut a long story short, eleven frame hives were packed away last autumn in the same way, but this spring's experience finds me less confident, for my bees have not wintered well. I have lost three out of the eleven, and several others are far behind time. If asked the question 'Do bees winter as well on the narrow as on the usual spacing, all other preparation being the same?' I, like Dr. Miller, would have to confess 'I do not know;' and this after several years' trial. Do our Editors, or Mr. 'Useful Hints,' or any of your many readers know? If they do, will they kindly tell us, as I have taken the *B. B. J.* for some years, but have rarely, if ever, seen an experience on the matter. Or, on the other hand, am I to assume the ¼-inch spacing has been tried, but on account of the trouble involved in having to alter the space for winter and shifting back again in the spring, the game has been proved 'not worth the candle?'

There are several other matters of interest I would like to write you about, especially a new feeder of my own invention which works well and costs nothing. The question of marketing honey is also interesting, seeing that some of your correspondents cannot sell their produce at about 6*d.* per pound; but as I may possibly find time to write again, I would, in the meantime, say your correspondent might be helped if he read my last letter on this subject (in *B.B.J.* for January 2nd, 1890).

In conclusion, may I say a word on the unneighbourly, or should I say unmanly, practice followed by some bee-keepers, leaving out empty combed hives as decoys for the swarms of their neighbours, and when asked if they would kindly remove them, they are not ashamed to tell you they have left them out for the very purpose of decoying swarms? At the time of writing I count close upon a dozen all near to me. Those who follow this practice have seldom more than two or three hives alive, and these generally weak, and are of the never-trouble class. With ten or more hives up to boiling point, the bee-keeper's risk of losing his swarms is far greater than they who practise this unrighteous system. Is there no law to help us on this point as well as on foul brood?—J. N. Blankley, *Denton, Lincolnshire.*

[The primary advantage of spacing frames at the narrow distance apart is to secure combs being built by swarms entirely with worker cells, even though only narrow starters of foundation are used as guides. Personally we have never failed to arrange the combs at the orthodox half-inch distance in autumn for wintering, and once having secured combs free from drone cells, we seldom care to again put them back to the narrow spacing. One reason for this being the tendency on the part of the bees to build brace combs wherever the least protruberance exists. Referring to decoy hives, it is annoying no doubt to have such things about, but there is no law to meet the case, though swarms may be claimed if seen to enter such hives, providing they have not been lost sight of from the time of issue till the bees enter the 'decoy' hive.—Eds.]

LATE MATING OF QUEENS.

[1005.] In *Journal* for October 29th last year, I mentioned a supposed late mating of a queen on October 8th, when I saw a queen enter one of my hives after taking a flight and several drones about the entrance, even at that late date. It had been my intention to unite this stock, but, at the request of our Editors, I did not do so, but left the hive so as to be able to make observations this spring. The bees were carrying in pollen on several occasions, but on opening the hive I found two and three eggs in a cell and a small quantity of drone brood, some of it sealed; and so it seems from this that the queen was not fecundated on the date mentioned.

Is it an indisputable fact that an unmated queen is *unable* to lay an egg capable of producing a worker-bee, or is it that instinct teaches the worker-bees to feed up the grubs so as to produce nothing but drones when their queen is unmated, in the same way as they feed up grubs to produce queens when they require one of the latter? I know I am 'out of court,' but at the same time I have not before heard the suggestion made.

I have been much interested in Mr. Wells' method of keeping two queens in one hive, but I do not think the plan will ever be of any practical use. In the first place, Mr. Wells' harvest was by no means large, as his average of 120 pounds per hive was really from two hives, which reduces his average by one half. It was also all extracted honey, so that I consider my results in 1889 of 1485 pounds—689 of which were perfectly finished sections—from sixteen hives very superior.

Mr. Wells might just as well have kept double the number of hives, and united them, if he thought fit, at the right time, or worked them separately, and the result in extracted honey would probably have been just the same.—A. J. H. Wood, *Bellwood, Ripon, April 23rd.*

[It is a well-authenticated fact, about which there can be no dispute, that the eggs of unmated queens

never produce anything but drones; the same being true of fertile workers.

With regard to Mr. Wells' plan of working two queens in each hive, of course it is open to every one to approve or disapprove of it; but as to its practical usefulness or otherwise, there can be no two opinions in view of the facts presented to the meeting of bee-keepers to whom Mr. Wells' observations were addressed. In plain terms he showed how, by dividing the brood of three colonies which had swarmed, he established nine small nuclei, none of which would probably have been of any value for wintering alone; but by adding one to each of nine stocks, and thus wintering them, he had eleven hives to start the following season with; from these came the results given.—EDS.]

IN THE HUT.

'Supernal spring! when bursts the bud
To flower, the bird to song;
When like an overwhelming flood
The cleaning comes along.'—*The Idler.*

[1006.] Spring cleaning must be done in huts as well as in houses; in the haunts of the bee-keeper as in the home of the thrifty housewife. So, in the Easter holidays, a visitor might have caught 'X-Tractor' scrubbing and brushing, with soap and hot water, everything he could lay his hands on. When all was done, there was a hungry man left amongst the feeders. The Hut was originally built in sections, on a good, sound foundation (but not built by dummies); the floor-boards are as sound as when first put down, and have certainly been well waxed; strange to say the excluder has not been able to keep out the wet, so we have had to make the roof perfectly watertight; we felt it damp inside, so refelted it outside. Is this a joke? More pitch you give the roof, more the water will run off. Or again, if the crew pitches the vessel, does not the vessel return the compliment?

Bees are flying daily now the fine weather has come again, after the easterly blizzards. Just fancy, a fortnight of the most glorious weather for the time of year within the memory of man, followed by four inches of snow on Easter Monday, fourteen degrees of frost at night, and nine degrees on Tuesday night! Yet it is truly marvellous that so little damage has been done. Gooseberries and currants are all right, and it is too soon for fruit blossom. I suppose the more than six months' winter has resulted in a sluggish circulation of sap. It has had no time nor moisture to thin it down to such a watery consistency that, when the frost touched the cells of the growing points, the cell sap has not frozen and ruptured the cell walls. This it is that does so much damage. A hurried examination of a few hives, just a gleam of fine weather, with a temperature of sixty degrees, showed plenty of glistening honey and a tendency to cart candy down and throw it out of the door. I notice the lay of the queen is over for a bit. As hens' eggs get more plentiful, so do bees' eggs. If a check in the weather makes the one scarce, we needn't open hives to satisfy ourselves the queen follows the lead. I have noticed, this spring particularly, what splendid umbrella guides our bees are. If the morning be warm and mild, with even the help of the barometer to boot in forecasting a fine day, I must take my rain-stick if the bees are not working. On the other hand, even should it threaten wet, and my bees are rushing out to work, I may safely leave it at home. I am thinking than, another year, I will not spring-feed over the centre of the brood nest, as heretofore; the running backwards and forwards of the carriers interferes with the queen, and creates a current of air through the very heart of the cluster most detrimental to brood-rearing in the choicest part of the hive, for it is next to impossible to make an air-tight junction between the stage and the quilt.—X-TRACTOR.

TWO QUEENS IN EACH HIVE.

[1007.] I should like to give Mr. Wells' experiment with two queens a trial, but have a difficulty in understanding his system, simple though it appears. Does the division board he introduces prevent the bees in the latter part of the hive from passing into the front portion—if so, how do these bees get out of their partitioned-off part? Perhaps Mr. Wells has an entrance back and front of his hive?

My hives, I should mention, have only a front entrance, the frames being parallel thereto. Could you, then, kindly inform me how I am to proceed in order to try working with two queens? I could not very well make another entrance now, but if the bees do not fight when allowed to run together in the section chamber, I should think one might let them use the one entrance, taking care, of course, to make the entrance to the partitioned off portion, small enough to prevent the queen from passing through.—H. GILBERT, *Gloucester, April 23rd*, 1892.

[In Mr. Wells' hives the frames hang at right angles to entrance, not parallel to it as yours do. In the latter case it would be absolutely necessary to provide a second entrance, either in rear or at side of the hive, because the danger is not so much of bees fighting, as of queens being killed by alien bees when the two lots are joined. The perforated dummy is used to keep the bees and queens apart until they have, in a measure, acquired the same odour, and thus lose their natural antagonism.—EDS.]

Queries and Replies.

[522.] *Misshapen Combs.* — Will you be kind enough to give me a little information, through the *B. B. J.*, what to do in the following case?—I have two lots of bees in frame hives, each on seven frames they were con-

demned bees driven from skeps last autumn. I put in full sheets of foundation, and gave them twenty-two pounds of syrup each, and they wintered splendidly. But the three centre frames they have worked one into the other, so that I cannot introduce frames of foundation between them without breaking the combs to pieces.—D. MANTELL, *Plumstead, April 25th.*

REPLY.—If the combs are so badly 'joined' as we are led to infer from the description, and as is likely they have sealed brood in them, it will be the wisest course to leave them as they are, for the present at least. Any additional frames of foundation may be added on the outsides of the centre ones. It is impossible to say what we would do under the circumstances without knowing exactly the condition of the combs from personal inspection, but we would certainly not 'break the combs to pieces' in order to put in sheets of foundation between them. If the hive chances to swarm, an opportunity will be afforded of removing the misshapen combs altogether twenty-one days after swarming, as the hive will then be broodless.

[523.] *Moving Bees in the Busy Season.*—I fear I shall have no alternative but to remove my bees (thirteen stocks) about a mile distant in the mid-season (beginning of June). I should be greatly indebted if, from your experience, you can give me any hints by which I may minimise the loss of bees and the check to their work.—G. J. G., *Bexley Heath.*

REPLY.—If it is imperative that you move the bees at the time stated, the only course is to make as great a change as is possible in the outward appearance of the hives. This will in a measure induce the bees to notice the change, and mark the new location accordingly. No very great loss is likely to occur if you so alter the look of each entrance as to make the difference easily noticeable. If the hives could have been moved about three miles away for a week or so, they might then be brought to the new location without loss.

[524.] Would you be so good as to answer just one or two questions in your excellent paper, from which I have received much help? Last year I made up my mind to keep some bees, and accordingly bought a swarm, which I did not get until about the middle of July. Notwithstanding how far the season was advanced, the bees did well, and made sufficient honey for their consumption during the winter. On examining them the other day, I found that they covered about five frames, three of which were nearly full of brood. 1. Do you think that they are backward for the present time? 2. If so, had I better feed them, as there is plenty of honey in the cells which they have gathered? 3. If a swarm which is sent to me arrives at twelve p.m., what is the best thing to do with it until the next day? 4. Do bees gather honey from buttercups? 5. Is a swarm in May likely to give any surplus honey?—A BEGINNER, *Abbotsford, April 22nd.*

REPLY.—1. Not at all backward considering the condition of vegetation at the present time. 2. No need for feeding if there is plenty of honey in the combs; it may, however, be useful to bruise or uncap the sealing of some cells should there be sealed food on combs where brood is being raised. 3. Keep it in a cool place, and hive it early next morning (at six a.m. if convenient). 4. The buttercup is not classed as among useful honey-plants; it yields pollen. 5. Yes, if the season is a good one.

[525.] *Dividing Stocks.*—May I *now* take brood from a stock, with some bees, to make a second one? If it is too early, at what date may I do so?—R. HALL, *Oxon.*

REPLY.—The above query is not quite clear. Do you desire to make an artificial swarm? If so, it is to be feared you are not quite conversant with the method of setting about it. Please write again, giving further particulars. Meantime, we may say that the weather and condition of the bees, are important factors in fixing *dates* for such operations.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th. — Suffolk Agricultural Society at Bury St. Edmunds. Entries close May 30th. For schedules apply C. S. Gough, Secretary, North Street, Bury St. Edmunds.

June 20th to 24th. — Royal Agricultural Society at Warwick. Entries close April 30th; post-entries received up to May 12th. Apply J. Huckle, Kings Langley, Herts.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

**** Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

T. J.—*Naphthol Beta in Bee-food.*—Thirty grains to ten pounds sugar is the correct quantity. You should state if you first dissolved the Naphthol Beta in alcohol, and in other respects carefully followed the directions given. If this is done, the bees should take the syrup just as readily as if not medicated at all.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 515. Vol. XX. N.S. 123.] MAY 5, 1892. [*Published Weekly*.

Editorial, Notices, &c.

THE SHOW AT BURY ST. EDMUNDS.

We invite the attention of readers to the exhibition of honey, hives, and appliances, together with lectures and the manipulation of live bees, to be held in connexion with the Annual Show of the Suffolk Agricultural Society at Bury St. Edmunds on June 9th and 10th. The schedule of prizes is a liberal one, and comprises classes for the best exhibits of hives and appliances for working a model apiary, with prizes of 4*l*., 2*l*., and 1*l*. for 1st, 2nd, and 3rd. A similar class for appliances suitable for the working of a cottager's apiary, besides seven classes for honey, in which the sum of over 21*l*. is offered in prizes. With honey of any year's gathering available for competition, and such a liberal prize list, a full entry should result. Application for schedules to be made to Mr. C. S. Gough, Northgate Street, Bury St. Edmunds. Entries close on May 30th.

TECHNICAL INSTRUCTION IN BEE-KEEPING IN KENT.

The concluding lecture of the course arranged for at the Horticultural College, Swanley, under the auspices of the Kent County Council, was delivered by Mr. Jesse Garratt, Hon. Secretary of the K.B.K.A., on the 26th of April. The whole series of lectures have been very satisfactorily attended, and an amount of interest aroused which, it may be fairly hoped, will lead to some permanent good results, though it may be said that a course of five lectures, each of 1½ hours' duration (7½ hours altogether), is a somewhat limited time in which to teach the 'whole art of bee-keeping.' The ground was fairly well covered in the series. Advantage was also taken of the College apiary to illustrate the practical part of the subject by manipulating bees in the hives. Among other operations of this kind, on one afternoon a stock was transferred from a skep to a frame hive in the presence of the auditors forming the class, two members of which proved the readiness with which the method of performing the operation of 'transferring' could be acquired by successfully removing the bees and combs of a couple of skeps to frame hives a few days later, though never having seen it done before.

The last lecture, on Tuesday evening, treated of feeding by syrup, candy, and flour pollens, care in the food preparation, and judicious choice of the times for feeding—in spring for stimulating the queen to lay, and in autumn to make up lack of winter stores. The importance of strong stocks could not be over-rated; it was the best preservative against robbing by neighbouring bees. Weak stocks were usually the greatest sufferers. Treating of foul brood and dysentery, he remarked how serious was the former, and how some districts in Kent were badly affected. He advocated purchase of swarms by weight, reckoning them at 2*s*. 6*d*. a pound. A swarm on the 1st of May was much more valuable than on the 1st of June, the value diminishing as the season advanced. At the conclusion of the lecture, Mr. Bond, Principal of the Horticultural College, kindly promised a text-book on bee-keeping to each of the lads from neighbouring schools who had attended the lectures; he also invited them to come to the College apiary if they needed advice in beginning bee-keeping. Mr. Bond mentioned instances in the Swanley district of preparations to begin, owing to the interest created by these lectures; also that several schoolmasters, who had been staying at the College during Easter for special instruction in agricultural chemistry, had heard some lectures, and had gone home with the full intention of becoming bee-keepers.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The first annual general meeting of the members of the Scottish Bee-keepers' Association was held on Friday afternoon, April 22nd, in the 'Imperial Hotel,' Market Street, Edinburgh—Sir Thomas D. Gibson-Carmichael, Bart., presiding. The annual report, which was submitted by the Secretary, Mr. John Wishart, gave an account of the honey harvest in Scotland during the past season, from which it appeared that there had been an almost total failure of the crop of heather honey in the greater part of Scotland. Flower honey, where such were gathered, had, however, been abundant and of first-rate quality. With regard to finances, the expenses of the Society, as might naturally be

expected in its first year, were very heavy, and the receipts had not been so large as it was to be hoped they might be in the future. Under these circumstances it would be no surprise that the Committee found a deficit in the funds of the Association. From friends of the Association, however, they had received such a sum as covered the deficit, and left the Society with 5*l.* in hand at the beginning of this year.

The Committee were glad to announce that Lady Gibson-Carmichael had offered to present, through the S.B.K.A., to all affiliated Associations holding a show in 1892 one medal to every Society with under thirty members, and two medals to every Society with over thirty members—such medals to be competed for at the local shows on condition that the rules and judges were approved by the Committee of the Scottish Bee-keepers' Association. The Committee hoped to hold shows in connexion with the Highland Society's Show in Inverness at the end of July, and with the Caledonian Horticultural Society's Show in Edinburgh on 7th and 8th September. The membership of the Association was 150, and the Committee thought that if the Society was to do any real good for Scottish bee-keeping it could only be by having active bee-keepers as members in every part of Scotland.

The Chairman said it was satisfactory to know that their membership waa steadily increasing. Last year the show at Stirling had been very successful, but the directors of the Highland Society, very wisely as he thought, would not allow them to go on on the old lines of making an extra charge to their portion of the show. The consequence of this would be that many more people would see their show, and in this way an interest in bee-keeping would be fostered throughout the country. Referring to this year's show he observed that some of their members had been against going to Inverness, but he himself thought they should visit the different districts in turn, and besides it might be the means of adding a number of Highland members. They hoped also to hold a show in the autumn in connexion with the Caledonian Horticultural Society's Show in Edinburgh, so as to give heather honey a chance. They would have the full management of the honey department, and he hoped they would have a good display. Some suggestions of the Chairman, having regard to the appointment of active local secretaries in each district, were adopted, and Lady Carmichael was warmly thanked for her offer of medals. In an informal way the meeting discussed the question of appointing lecturers to go round the country and thus get up an interest in bee-keeping, but no definite action was taken. The proceedings closed with a vote of thanks to the Chairman.

COMB FOUNDATION.

(*Concluded from p.* 165.)

To Obtain a Stock of Spare Combs.—This is coming to be regarded as a necessity in every apiary of any size. Such combs are of the greatest use, as we have seen, for giving to new swarms, and they come in handy at the close of the season for giving to lots of driven bees. They are also the mainstay under the extracting system, and doubtless the magnificent reports of yields from single stocks which we regularly receive from America owe their origin, or, at least, their credibility, to the well-known use the Americans make of old combs. It is quite possible, of course, to start the extracting system with foundation alone; but, besides the extra care required in handling the newly built combs, there is always considerable delay while they are being built out. Beginners may commence by storing away all combs that can be removed from the stock hives in autumn, and, instead of retaining these next spring, give comb foundation. We prefer comb foundation to old combs at this season for various reasons, only, as the giving of them usually forms part of the operation known as 'spreading the brood,' extra precautions must be observed. They should only be given when the bees are closely covering all the combs they already have, and only in conjunction with an income in honey or syrup feeding. Combs thus obtained are eventually the best for all purposes. They seldom show any trace of sagging, and, being usually bred in quite up to the top bar, are throughout of equal strength. Here we would caution beginners in extracting combs that have only been partly bred in. On turning these, even at a moderate speed, in the extractor, they will often be found to give way, while the comb on the other side of the cage, that may never have been bred in at all, will stand the ordeal. The break takes place exactly along the junction of the portion bred in, and is the result, we suppose, of the two portions yielding unequally to the centrifugal force.

At times in early summer it is possible to get more sheets drawn out in a hive than the bees are able to use for the little honey coming in, or the queen to furnish with eggs. In such times it is a good plan to remove the sheets inserted next the outside after twenty-four hours, replacing them with fresh sheets. These partly worked combs are as good as any for swarms.

An addition may also be made to the stock of worked combs by extracting hives that have swarmed three weeks before, and replacing the combs alternately, or even entirely, by foundation.

We do not advert to the method of using combs newly drawn out in the body of the hive for cutting up and inserting in sections, except by way of warning. It is claimed for such combs that they are thinner than those drawn out at first in the sections themselves. This we not only question, but from careful observation deny. There may be some truth in it when no special super foundation is used, but we should never use yellow brood foundation in supers, however worked out. It always betrays itself.

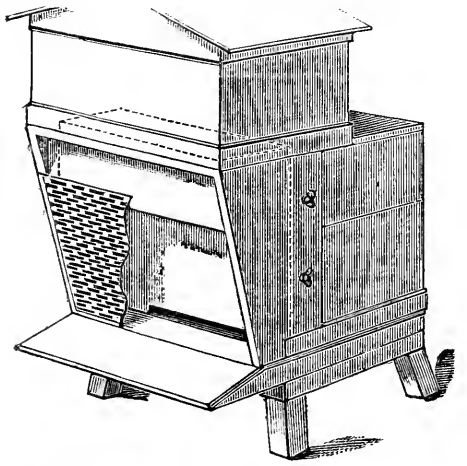
When asked as to the desirabilty of using full sheets in brood frames, unhesitatingly we say yes. Every expert knows how very generally

all comb built out below the strips of foundation is drone comb, and it is poor policy to save a little expense in foundation, and lose it ten times over in consequence of unlimited drones. If from three-eighths to half an inch be left clear at bottom, and even less at the ends of a sheet, the bees will readily contrive to build quite enough drone cells to meet all necessary ends. This observation also disposes of queries as to the use of drone-cell foundation.

Shall we use full sheets of foundation in sections? That is a question depending so entirely on the nature of the foundation used that we rather incline to err on the safe side, and say NO. As we make our own foundation, and know just how it works, we are not afraid to fill sections with it, the season being favourable. But still we should, and do, keep on the safe side by using starters from three-quarters of an inch to one and a half inch deep. The occasion on which we feel safe in using full sheets is when we require to place our supers on a hive some time in advance of the honey season. There is then abundant time for the bees to make the best work; but during a glut of honey the work is too hasty to be so well done.—*From an article by the late Wm. Raitt.*

THE 'HOOKER' SELF-HIVER.

The latest contrivance designed for the purpose of accomplishing the self-hiving of swarms is that devised by Mr. J. M. Hooker, and, as will be seen in the 'cut' below, consists of an



arrangement for affixing to the front of an ordinary frame hive. To ensure its being more readily understood, a portion only of the queen-excluder zinc—which covers the whole of the hive front—is shown, the space between the top of the zinc and the roof being also, of course, covered in with wood.

The stock hive, as seen in illustration, has above its brood chamber an ordinary shallow-frame box, or a rack of sections. When being prepared for action, the quilts are removed and replaced by a board half an inch thick. The 'hiver' is then fixed, and held in its place by thumb-screws at each side. This done, the hive, already prepared to receive the swarm, is placed in position overhead, projecting beyond the parent hive, and flush with the front of the 'hiver.' It thus overhangs the oblong space indicated by dotted lines, this space forming the roadway through which the swarm—passing up the inclined plane afforded by the inner face of the excluder zinc—enters the hive prepared for it.

The construction of the hiver is so plainly set forth in the sketch that any one handy with tools will be able to make it for themselves. As it is neither patented nor registered, it is open for manufacturers to make it for sale, the designer only asking that it shall be named the 'Hooker' self-hiver in order to distinguish it from others.

THE VALUE OF DRAWN-OUT COMBS: WHEN AND HOW TO SECURE THEM.

The best thing a bee-keeper can have in the spring is plenty of hives full of bees; and the next best thing is plenty of good combs to go with them. The difference between twenty good colonies in as many empty hives (no combs), and ten good colonies in ten hives full of drawn-out combs, is not so much as some might think; how much do *you* think? Every bee-book has its chapter on increase of colonies; but how many have a chapter on increase of combs? Yet we can but give it second place in importance to the bee-master. True, if you have bees enough, in time you will get the combs; but to get them at the least expense of bee-force, which is our capital stock, and in the shortest time, is the object of this article. If we lose the use of our bees in honey-gathering because all their force is used up in comb-making, we have lost the use of our capital for that season; and, if a hard winter follow, it may be for the next year, too; so time becomes an important consideration. I remember one year in which, during basswood bloom, good colonies filled an extracting super in two days chock full, and yet the flow continued. Having only one set of combs for each colony, the bees were forced to spend almost time enough to fill another set of combs before the honey already gathered would do to extract. In this instance, one set of combs was almost as good as a colony of bees. This was an unusual year, but I have found that a surplus of empty combs in the spring is a grand thing to have, if we do not get them by the bees dying to make a surplus.

How many combs are profitable? After careful thought and observation I have fixed on three extra hives full for each colony, spring count, as just about the right number. These, with what foundation can be used advantageously during the season, ought, with good management, to ensure every bee opportunity to

do its very best, and not hang out around the entrance as a sign there is no room within.

How to Use them.—At the risk of getting the cart before the horse, and telling how to use the combs before the way of getting them has been told, we will say right here that one set of combs is to be used for increase, and two for surplus storage; not that we mean that each swarm is to be hived on a full set of combs, but one set is to be judiciously used for the benefit of the swarms or increase of bees; but to tell just how these are used would require an explanation of my entire method of increase of colonies, and would make this article too long.

The other two sets of combs are to be used as extracting supers for the strongest colonies on the tiering-up plan.

Comb Foundation.—I regard comb foundation as an advance in bee-culture second only to the movable-frame hive in importance, and it is to this we must look mainly for our new combs; but to get the most advantage from it, care and judicious management are required. I have seen instances where foundation had been used so as to be almost, if not quite, a damage to the bees. But I have noticed that the ones who used most foundation are, as a rule, the successful ones.

How to Use it.—In full sheets, always. If you have but ten sheets, it is better to put nine in frames, so as to fill them, and cut the other sheet into half-inch starters for the rest of your frames, than to divide the lot into quarter or half-sheets. If this be done, you are sure to get perfect combs as far as the foundation goes; and, remember, a comb once finished is good for all time, so far as we are concerned. They are the foundation of your business, part of your capital stock, and let them be just as perfect as you can get. If the foundation is cut into strips to quarter or half fill the frames, the chances are that, as soon as the bees get below the starter, drone comb will be built, and this is just what you want to avoid as much as possible; for I have noticed that, be just as careful as we can, and keep out all drone combs as a whole, there is sure to be enough in the hive. Either by the mice gnawing the combs, holes left from cutting out queen-cells, or some way, it gets there.

Two Ways only to Get Combs.—1. Having the bees build them. 2. Using foundation, and having them drawn out.

The difficulty with the first is in getting too many imperfect combs, either crooked or too much drone comb, and it is too slow. I fully believe that, up to a certain amount, say five or six combs, bees in a reasonably strong colony will make them entire with as little loss of force as in any other way. I believe with Dr. Miller, that a certain amount of wax is secreted any way, whether we save it or not; and if I were sure of always having vigorous young queens in *all* my swarms, I would hive them all on empty frames only, for I am sure we lose bee-force right there; but the loss is more than off-set, on the other hand, by the imperfect combs and the annoyance of righting them. So, practically, we are reduced to the method of increase of combs, *i.e.*, foundation.

When to Put in Foundation.—Not too early in the season, usually not before swarming commences. A certain amount of heat, at least 100°, I think, is necessary to make the wax soft enough for bees to work out into combs; and up to June 1st to 10th the temperature of the hive is not high enough for wax-working—first, on account of the weather outside; and, second, on account of lack of numbers in the hive to maintain the required heat. Another reason why it must not be put into the hive too early is that bees will not work on it but to a very limited extent before honey is coming in. True, some years we get honey from fruit-bloom and dandelion so as to give the bees quite a start; but this would better be used to fill the combs you already have with brood, to push things later on when clover is in bloom.

How Much at Once.—Do not make the mistake of putting too much foundation in a colony at once. I went to see a bee-keeper last summer, and found plenty of his strongest colonies with eight full frames of foundation over them, while other colonies, not quite as strong, had none, and were really suffering for lack of room. What was his duty in this case? First, take out four frames of comb from the colonies having no foundation, giving these to the colony having eight frames of foundation, and giving the four frames of foundation (displaced) to the one losing the frames of comb, then all will be merrily at work, not having so big a job as to become discouraged; and the result is, eight frames of comb in less than half the time he would have had them if all left in one place, and he has saved all this time for the bees, which means more honey, and therefore more money. As a rule, not over two frames should be given to a colony at once, and not that if there are not bees enough to cover them entirely.

Where to Put it.—Moderately strong colonies seem to draw out and finish up combs better than very weak or very strong ones; therefore, of ten given colonies, if five were medium and five strong, I would take combs from the medium, substituting foundation and giving the combs to the strong, with, say, one frame each of foundation, for I have found that a colony strong in bees will draw out one or two frames of foundation at each time of extracting at little, if any, loss of honey; and before I got all the combs I wanted, I made it a rule to give them at least one frame. Weak colonies should be made to draw out combs for the use of strong ones. The few bees they have are compelled to remain at home to care for the brood and maintain the heat of the hive, so they can be kept busy working for their more prosperous brethren—or perhaps *sisters* would be more appropriate. Always put foundation between frames of comb if possible, and near the centre of the hive if the colony will bear to be spread that much.

Fall Honey and Combs.—The honey we usually get after basswood is dark, and brings but a small price in market, hence this is one of the best times to crowd the bees in drawing out and finishing up combs to be ready for the white honey the next year. If you can so manage that you have turned *all* this dark honey into wax, you have done well, and increased your capital at the smallest possible expense. But here is a point of advantage few bee-keepers have taken, for a sale of foundation in August or September is very rare, and yet I have found it one of the best times to get combs.

In closing, I should like to emphasise three points mentioned as seeming to be of greatest importance of any:—1. Full sheets always; 2. Not putting too much in a hive at once; 3. Turning buckwheat or late honey into combs. —C. A. HATCH, *in* '*Gleanings.*'

[The above is so thoroughly in accord with what we have been endeavouring to teach for some years past, that we gladly give it a place in our columns, and, in order to secure its exactly fitting in with British methods, would simply add that when working for extracted honey, and using shallow-framed surplus boxes for the purpose, there is not the same need for giving full sheets of foundation as when the same-sized frame is used in brood and surplus chambers. Our own practice is to use half-sheets of the foundation usually sent out, which measures eight inches deep, and so we have a 'starter' four inches deep in the five-and-a-half-inch frame. The bees usually complete it with drone cells, but these are no drawback in a comb used for extracting purposes only. The value of a full stock of store combs for storifying in the event of a 'honey-glut' cannot be over-estimated, seeing that more than double the quantity will be secured while it lasts if the bees have no comb-building to do.—EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1008.] The weather is cheering so far, as the amount of sunshine we get develops the nectar in the few flowers we have in this district; but the continued drought, coupled with frosty nights, is not calculated to grow abundant crops of hay later on, and it is from the flowers in the broad acres of the farmers' fields we get our crops of honey. The old couplet, 'March storms and April showers bring May fine flowers,' has not been verified this year as regards the two first-named months. March, hereabouts, was the driest within the memory of the present generation, and April has not proved showery by any means. Discontented murmuring will not alter the weather, but unseasonable weather does not augur well for bee-keepers.

The writer in the *Yorkshire Evening Post* should get some of the 'Guadeloupe bees.' These bees have no stings, and deposit their honey in bladders of wax about as large as a pigeon's egg, not in combs as our bees do—the honey is of an oily consistency and never crystallises. These bees would be the identical race he is wishing for—stingless, therefore harmless—and again, what dainty morsels a dish of these large single cells of honey would be on his table! The colour of these bees is black.

There are some bee-keepers who do not believe that bees select or locate a home before swarming. If such was a fact, the reprehensible —nay, dishonest—practice mentioned by Mr. Blankley in his concluding paragraph (1004) would not hold; but the fact that these hives act as decoys for neighbours' swarms settles the question beyond a doubt. I trust it will not be long before matters of this description will be punishable as misdemeanours in the eyes of the law; we have a 'Minister of Agriculture' to whom we can appeal to take the initiative in these and kindred subjects. Perhaps the County Councils, who now seem waking up to the importance of our industry, will pass bye-laws prohibiting the nefarious practice. Ventilate the matter in your local press, and influence public opinion, and we shall soon get the alteration we want.

Having now reached the merry month of May, our friends in favoured districts will soon be expecting swarms, and as the chance of trying the swarm-catchers, self-hivers, &c., will soon be here, it will be advisable to be ready with the kind of hiver intended to be tried.

Our inventive cousins in America are still busy. A new-style spring bee-escape, which enables four bees to pass out at the same time —it is named the 'Lightning Bee-escape'—is one of the new ideas. And a machine for folding sections by simply turning a handle is another. This machine folds, glues, and presses together thirty sections per minute. Mr. Philo, the inventor, says of it, 'To give an idea of the amount of power required, my boy Ernest, four years old, can work the machine nicely.'

I have dispensed with the trouble of boiling my syrup for spring feeding this year. I put ten pounds granulated pure Demerara sugar into a large basin, and pour seven pints of boiling water on it, stirring till all the sugar is dissolved, adding while stirring an ounce of salt to each lot of syrup. This does not recrystallise, even if it remains in the tin for several days. The boiling process has always been a loss of time, as it required constant attention, and where a

number of hives had to be fed considerable time was lost.

Our bee-keeping friends should not forget that eggs deposited the first fortnight in May produce the bees that gather the clover honey during the month of June. Remember, worker-bees do not forage in the fields until a fortnight old, if the colony is in a normal condition; therefore it is five weeks from the day the queen deposits the eggs to the time the bees are ready to gather honey from the opening flowers. Experience says stimulate now, and where the district is barren of abundant forage feed regularly in small quantities.—W. WOODLEY, *World's End, Newbury.*

TWO QUEENS IN ONE HIVE.

[1009.] I have been much interested in the correspondence on the above subject, which seems to add another illustration of the old proverb that 'There is nothing new under the sun.' I made and worked a hive on the same principle as that advocated by Mr. Wells in the spring of 1886, and stocked it with a swarm the same year. In those days I had only five stocks, and it was my only swarm, so I had not the opportunity of trying my idea until the following year (1887), which was a very good bee-season with me. Happening to have a swarm and cast come off together, I united them, and hived them in my new hive in accordance with my ideas, with grand results.

I will endeavour to give a description of the hive. First, the frames run at right angles to the entrance; the inside measure of the body is two feet, holding sixteen frames, or fifteen with the dummy, which is one and a half inches thick, made with a wooden frame and covered each side with perforated zinc, leaving, of course, a space between, in which I put a little camphor to scent the hive. The hive is deep enough to hold another tier of frames, standard size, or two tiers of shallow frames for supering. Entrance the whole width of hive, with movable blocks, to either make one or two entrances, as desired.

To return to the bees. Before hiving the united swarms, I removed the usual dummy and placed the perforated one in its place, filling up the hive with seven frames, the old stock having eight. I then readjusted the blocks, making two entrances, and hived my swarm, and left them so for about a fortnight, until they got well established and a good honey-flow commenced. I then supered the whole with sixteen standard frames, with full sheets of foundation, and left them to their own devices. I did not observe any difference in their behaviour afterwards; they seemed to come in and out in their usual manner, and soon tackled the upper story in good earnest, and I took an immense amount of honey from them as well as some combs of brood to assist other swarms. I have never had either before or since such slabs of comb perfectly filled and sealed. I let them remain so the next year, 1888 (the well-known year of failure), and got about fourteen pounds of honey from it—the only honey I did get that year. I have since worked it as a single stock, having made other hives and wishing to increase my stocks, but I intend trying it again this summer, all being well. I may add that it has never swarmed. The only objection I have to such hives is their size and weight, especially when filled with thirty-one frames.—THE VILLAGE BLACKSMITH.

WORKING WITH TWO QUEENS IN ONE HIVE.

[1010.] I wrote you on Monday last, too late evidently for insertion in the *Journal*, saying that since sending off my first letter I noticed that Mr. Wells *did* produce some sections when working with two stocks in the same hive.

With reference to your footnote to my letter, and my remark that Mr. Wells' method would prove to be of no practical benefit, I was alluding to the production of honey only, as I considered that any two hives could be brought together and made to work in the same supers, when, of course, much larger results might be expected than from one lot of bees with one queen. I quite admit that for queen-raising, where non-swarming is practised, Mr. Wells' experiments may be of use.—ARTHUR J. H. WOOD, *Bellwood, Ripon, April 29th.*

[Our correspondent must pardon us if we confess our entire inability to see 'eye to eye' with him in regard to his estimate of the utility or otherwise of Mr. Wells' method, either as expressed by him in 1005, p. 167, or in the above communication. That two colonies of bees can be got to work amicably together in one super was stated at the meeting of the B.B.K.A. as a fact well known to bee-keepers of experience, and one which had been tried years ago. But the difference between that plan and the one under discussion was at once seen and admitted by those present, as was also the fact that Mr. Wells obtained his total harvest of honey from eleven hives, and not from twenty-two, as suggested by our correspondent. He had simply preserved surplus queens, which would otherwise have been destroyed, and, after keeping these queens in makeshift nucleus hives till the autumn, added them to nine stocks of bees. That was the whole secret of the affair, and on it Mr. Wells' 'new method of working bees,' as he termed it, was based. On the other hand, Dr. Tinker and Mr. Doolittle have, as we have already pointed out, successfully experimented in the line of securing the mating of young queens in full colonies with laying queens. Mr. Wells had no such object in view, nor is his plan adapted for it so far as we can see.—EDS.]

SOME BEE 'INCIDENTS.'

[1011.] Your correspondent (502, p. 129) will find the plan recommended by you very good. Last year I placed a straw skep on the top bars of a frame hive, previously fitting up the frames with foundation, with the result

that when the skep was full the bees worked down and filled the bottom chamber beautifully. I merely covered the whole with cover of hive.

I really think it is high time that you woke up the Dulwichites, Norwoodites, Croydonites, and all other 'ites' that live that way, for their laxity in bee-matters. On Easter Monday I walked from Camberwell to Upper Caterham, a distance of seventeen miles, and back through Caterham Valley and Riddlesdown. On the whole journey I saw no more than a dozen hives, and most of those kept in the unorthodox fashion. One lady in Upper Caterham had five stocks; they were situated in the garden, only a few feet away from the house, and all huddled together on boxes and baskets, literally speaking, just like honey-pots. A couple of puppies playing among the hives just before my arrival had upset two, and—well, I fancy that, like the dogs in the picture, they would require the 'blue-bag'—without remaining to put things right, they went indoors. A similar incident, except the spill, happened to a half-grown cat of mine last week: she is fond of catching flies, but she has now found out that there are flies and *flies*. Finding they were to be had in abundance at one spot, she betook herself there. She first smelled at the entrance of the hive, and, finding it not so bad, started playing 'touch' with them. The incoming bees were not long in divesting themselves of their knickerbockers (pollen), and joining in the game with vigour, with the result that my cat found she hadn't a 'look in,' and left them to finish the game. They were too fond of coming to the 'point,' she being always 'touch.' Since then she casts her optic with suspicion on yon hive. —G. Wenman.

A STINGLESS BEE.

[1012.] Referring to bee lectures, I was much amused with the humorous description given by your correspondent on his experiences in bee-keeping. I enclose a cutting taken from the *Suffolk Times*, but am unable to give further particulars respecting this 'stingless' bee:—'The Guadeloupe bees lay their honey in bladders of wax, about as large as a pigeon's egg, and not in combs. The bees have no stings, are small, and of a black colour. The honey is of an oily consistency, and never hardens.'—A Reader, *May 2nd.*

THE FIRST REPORTED SWARM FOR 1892.

[1013.] I have met with the first swarm of this season this day, May 2nd, at the apiary of the Misses Benyon, Henwick, Worcester; and at the same place saw on one of the hives a crate of sections almost filled and ready to take off.—E. D. Davenport, *Hon. Sec. Worcester B. K. A.*

[It is suggestive of the backwardness of the season, when the above is the first reported swarm for the year.—Eds.]

WEATHER REPORTS.

Bucknall, Lincolnshire. BM. 25.

April, 1892.

Maximum 72° on 5th.	Rain, 1·76 inches.
Minimum 18° on 13th.	In 24 hrs. ·52 on 27th.
Mean max. .... 56·0°	Average of 6 yrs. 1·26.
„ min. .... 30·6°	Frosty nights, 17.
„ temp. .... 43·4°	Range, 54°
„ of 6 yrs. .. 42·9	Greatest daily range, 48°

A month of extremes of temperature. Bees very backward.—J. Bint.

Westbourne, Sussex.

April, 1892.

Rain ..... 1·04 in.	Sunshine, 241·70 hrs.
Heaviest fall, ·37 in. on 15th.	Brightest day, 23rd, 13·50 hrs.
Rain fell on 10 days.	Sunless days, 1.
Below average, ·65	Above average, 53·45.
Max. temp., 68° on 6th.	Mean max. temp., 55·4°.
Min. temp., 26° on 17th.	Mean min., 35·8°.
Min. on grass, 15° on 15th.	Mean temp., 45·3°.
Frosty nights, 10.	

The first twelve days of the month were almost cloudless, and very warm. Bees have been working well on the fruit blossom, but we have not enough here to put on supers.—L. B. Birkett.

Queries and Replies.

[526.] *Utilising Queenless Bees.*—As a bee-keeper of one year's standing only, I have been advised to refer to you for advice under the following circumstances:—I have two frame hives, one with eight frames, fairly well covered with bees, and three frames containing a nice quantity of brood. This seems to be going along all right. The other, with eight frames, is well up in bees, but the brood, which is on four frames, is all drone. I cannot detect any worker brood, nor discover the presence of the queen. There is one queen-cell with uncapped grub. Will it be best to let things take their natural course, or how would you advise me to act? I take the opportunity of acknowledging my indebtedness to the various publications of the Society for much help, and especially to *Modern Bee-keeping.*—W. T. J., *Breamore, Salisbury.*

Reply.—We cannot think you are right in supposing there is a queen-cell with an unsealed grub in it. Is it not rather a drone larva being reared in an enlarged worker-cell? These latter are sometimes not at all unlike a partly formed queen-cell, because of their being elongated to accommodate the larger bulk of the drone larva. If the stock is really queenless, and you are in

error about the supposed queen-cell, then the brood seen will probably be the progeny of a fertile worker, in which case the bees will be of little value as a separate stock, and should be united to the other colony. Seeing, however, that the supposed queen-cell can produce no useful result, we should in any case utilise the bees by uniting them to the other stock.

[527.] I should be very grateful for a little information respecting a hive of bees that I have just examined. It was a second swarm, hived last season on June 19th. It was a very good-sized swarm, and the bees seemed to have done very well. I fed them well on syrup, and they worked out six frames of comb, and had a good supply of sealed stores when packed up for winter. Early in February I put on a three-pound cake of soft candy, and that was all consumed. I afterwards gave them syrup. On Friday, the 22nd ult., I examined them, but could not see any sign of brood or eggs, though the bees are plentiful and look clean and healthy on five frames, with sealed stores on top part of each comb. The bees still carry in pollen, and the combs are apparently in good condition. Is the stock likely to be queenless, or it is because it was a late swarm that there is no brood in combs? On one comb bees are working out something like a queen-cell, but it is not far enough advanced to see what it is. Can it be a queen-cell?—G. S., *Bradford Abbas, Sherborne, Dorset.*

Reply.—The symptoms described above point to queenlessness, but each comb should be carefully examined to make sure there is no queen present, as pollen is sometimes carried by queenless bees, though not often. The partly formed queen-cell would indicate that some accident had happened to the queen at a time when there were no eggs in the hive from which to raise another, and in this way it is possible the mishap may have occurred to the queen at the end of last year.

[528.] *A Beginner's Queries.*—Having only been introduced into the 'bee-world' this year, this is my first communication with you, but it won't be the last, as I'm afraid I shall be pestering you with questions if you condescend to answer them. I have at present one bar-frame hive (rather weak I think, bees only on four frames as far as I can see), but am expecting two more in a day or two. Now, there are a goodly number of fruit-trees about here, apple especially, and I have been wondering, isn't it possible to get a hive into condition in time for the bloom? Am feeding as directed in *Guide-book*, and should like to know—1. Couldn't I add some brood from another hive and so assist to get ready? or, would it be better to unite two weak hives together? On lifting the edge of the quilt on the hive I have at present, I see lots of dead bees down between the front combs. 2. Would it be safe to take the combs out and clean them, or would it chill the brood? Freckleton is a village eight miles from Preston and lies about three-quarters of a mile from the Ribble on its north bank; country round about flat but pretty fertile, good quantity of fruit-trees in the district, and, a bee-keeper here tells me, plenty of clover, the flow from it lasting two to three weeks. Although we have a population here of 1300 odd, there are, as far as I know, only about a dozen bee-keepers, with only a few colonies each. Beans, I believe, are also grown pretty much here. Heather, none nearer than nearly twenty miles. 3. What do you think of a bee-keeper's prospects here, and would it be worth while going to the heather in season? 4. I should like to become a member of a Bee Association; could you give me a hint how to proceed? I take the *B. B. J.* and must say learn a deal from it; 'Useful Hints' being especially 'useful' to me. The weather here has been very changeable and cold, and last few days a little rain thrown in. To-day, however, as I write, it is a beautiful warm day, and the bees hard at it carrying in pollen and honey. Will not trouble you any further at present as I think my present communication contains a pretty 'large order.'—Hexapod, *Freckleton, near Preston, Lancs.*

Reply.—1. In your district it will not be found advantageous to take combs of brood from strong stocks to strengthen those that are weak. The bloom from fruit-trees can seldom be relied on so far north as Preston for doing more than helping to build up stocks in time for the clover, and there are still six or seven weeks in which to build up the weak lot into a strong colony before clover is in full bloom. Much, however, will depend on the queen, and how far the present weak state of the stock is attributable thereto. 2. Yes, combs may now be lifted out for the purpose of cleaning on a warm sunny day without risk, if replaced as soon as possible. 3. The experience of those who have kept bees in the district would be more reliable than any opinion we could offer on this point. It sometimes pays well to remove bees to the heather, but twenty miles is too far to take them; besides very much depends upon the surrounding circumstances. 4. The Lancashire and Cheshire Association is the one you should join. The Secretary, Mr. H. Lindon, 10A James Street, Liverpool, will inform you as to its local secretary for the Preston district.

[529.] *Strengthening Weak Stocks.*—Could I, in order to strengthen a weak stock, safely exchange its position with that of a strong one, or would such a plan be likely to cause fighting and balling of the queen of the weaker lot? If done, it would, of course, be in the middle of a fine day, when bees were flying freely.—S. W. R.

Reply.—Stocks may be strengthened in the manner described. We should, however, strongly deprecate such a procedure at this season, more especially if, as is probable, the weakness arises from some fault in the queen. Better results will be obtained by allowing the strong colony

to yield you some surplus honey, than lessening the chances of securing that desirable end by robbing it of its working strength in order to patch up a weakling, which, after all, may do no more than support itself.

[530.] *Uniting Bees in Twin Hives.*—Having a combination hive with an entrance at each end, I have wintered two stocks in it separated from each other by perforated zinc only. If I remove this and kill one queen, will bees unite without fighting?—EAST KENT, *May 2nd.*

REPLY.—It is almost certain they will.

Echoes from the Hives.

Nithsdale, Dumfriesshire, N.B., April 26th.—We have had a very bad spring here, and those who still use skeps have suffered severely. The death-rate amongst frame-hive stocks has not been so heavy; I suppose because it is easier seen when the bees are short of stores. I was surprised to read in the *Bee Journal* an account of supers being taken off this season. They must have had very different weather to what we have had here, as it has been so cold our bees have not been able to make much progress. I am glad to say mine came through the winter well, and, after a little feeding they have had, now seem able to take advantage of the good weather when it comes.—NITHSDALE.

Honey Cott, Weston, Leamington, April 28th, 1892.—Since my last 'Echo' we have had many variations in the weather. For a fortnight or more the bees were labouring as if on 'piece-work,' from daylight till dark; off they went with a will—no loitering or idling about—the strong scent from the hives showing conclusively that the bees were gathering some honey. Then we had a sharp touch of cold weather, with frosty nights, the thermometer showing twelve degrees of frost; then again a change to milder weather, and fruit-trees in full bloom. What a time for the blossoms to become fertilised! On Bank Holiday a friend called, and observing the bees in full swing on the plum-trees, remarked that a friend of his was quite perturbed about not seeing bees on the fruit-blossoms in the gardens at Coventry, where he said there were hundreds of trees in bloom. For two or three days past the weather has again become adverse. When reading my *B.B.J.* on Thursday morning about the glorious weather of the past few days, we were having quite a heavy snow-storm, which continued for an hour or two; then it came on to rain, and the wind has got round to the north and north-east, and has been so cold again to-day that not many bees dare venture out. I have been gently stimulating most of my stocks, but a few that have rather too much I have given a puff or two of smoke to, and lifting out a frame, shook the bees off on top of other frames, and with a short piece of old excluder scratched across the face of comb; it acts like a saw, and sealing can be uncapped in a minute or two, and when there are no pilfering bees in the way, it can be done very effectually. Referring to bees of two stocks working in one super, I may be allowed to say that, as far back as 1876, I had twin hives with two stocks in each, and the bees from both stocks worked in one super, having of course the round $\frac{5}{32}$ excluder to keep the queens apart. The worst of it was when one lot started to swarm, the other followed suit. I think that was the reason I abandoned working them in that way.—JOHN WALTON.

April 30th.—This last day of April the thermometer has registered four degrees of frost; at 6.30, with the sun shining, it was up to thirty-five, but everything was white as snow, though it was not too cold for a big humble-bee to be buzzing about. He came round me several times, making me particularly notice him. Now is the time to look after queen-wasps. I have killed several lately, and hope to destroy some more.—J. W.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th.—Suffolk Agricultural Society at Bury St. Edmunds. Entries close May 30th. For schedules apply C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 20th to 24th.—Royal Agricultural Society at Warwick. Entries closed April 30th; post-entries received up to May 12th. Apply J. Huckle, Kings Langley, Herts.

OUR LIBRARY TABLE.

(*Continued from page* 150.)

The Garden Annual. By W. Robinson. Published at the *Garden* office, 37 Southampton Street, Strand. 1*s.*—This will be found a most useful book of reference to all those who have any business connexions with gardeners and the horticultural trade. It is a complete address-book, and gives an alphabetical list of nurserymen, seedsmen, and florists in the United Kingdom, as well as the leading ones in foreign countries; and there is a separate list of those in the United States. There is also a list of the principal gardens in the United Kingdom, with the names of the owners and the gardeners, besides a complete directory of country seats, and, lastly, a list of gardeners and their addresses. There is a good deal of other information of one sort and another, and we are much pleased with the book, and think it well worth the small sum charged for it.

We have also received the *Report of the Proceedings of the Twenty-second Annual Convention of the North American Bee-keepers' Association,*

Published by T. G. Newman & Son, Chicago. 25 cents.—This contains list of members, and a full report of all the papers read and the interesting discussions that ensued. There are excellent portraits of such well-known bee-keepers as Rev. L. L. Langstroth, the first President, P. H. Elwood, Dr. A. B. Mason, C. P. Dadant, Hon. Eugene Secor, Captain J. E. Hetherington, W. L. Hutchinson, E. R. Root, and others. At the end there is a song, called 'Spring-time Joys,' by E. Secor, set to music by our friend Dr. C. C. Miller. One of the most interesting papers was that on 'Grading of Honey,' and, although no decision was come to, a committee of seven was appointed to formulate a set of rules for grading honey. We hope our friends will come to some decision that may be useful to bee-keepers generally. A committee was also appointed to endeavour to obtain from the Government a recognition of the Association, and the addition of a department of Apiculture to that of Agriculture. The Convention is to be held in Washington, D.C., next year. Many of those who usually attend were kept away by illness.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** *Complaints reach us from time to time of persons not being able to procure the 'Bee Journal' from their local bookseller. No such difficulty need arise. Local booksellers experiencing such a difficulty should instruct their London agent to apply to Messrs. Kent & Co., Paternoster Row, E.C.*

C. H. (Womersh, Guildford).— *Working Sections on Skeps.*—1. There are special racks made for working sections on straw skeps, which may be obtained from any dealer in bee-appliances. The 'best time to put them on' depends somewhat on circumstances. Given warm, sunny weather, the skep well filled with busily working bees, and honey-producing plants plentiful in the district, you may assume safely that the *best time* has arrived, and put on supers without delay. 2. Yes. Comb foundation may be affixed to glass by warming the latter and pressing the edge of the foundation thereon. 3. Giving supers tends to lessen the chances of swarming, but will not altogether prevent it.

J. B. B. (Haworth).—Queen sent has never been mated.

*** BEE-FLOWERS.—Mr. H. Crawley (250 Canbury Park Road, Kingston-on-Thames) writes to say that, having surplus self-sown plants of *Borage* and also of Canadian Balsams, he will gladly send a few gratis to any bee-keeper forwarding his address, and enclosing stamps to cover postage.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Just two days before our last 'Hints' appeared, we gave what purported to be a truthful description of the weather at the time of writing; but in that two days we had passed from one extreme to the other, so that when the *B. J.* reached the hands of a considerable majority of its readers, they were reading of 'brilliant sunshine and warmth' while enduring the misery of a return of wintry weather and a bitterly cold snowstorm! We are now writing, a fortnight later, in the midst of as beautiful a spell of bee-weather as could be wished for; moreover, it has continued for five whole days past; but whether these lines will be read with snow on the ground deponent sayeth not. In fact, it is so notoriously an unsafe thing to prophesy 'unless you know' if weather is the theme, that we prefer hoping for the best and waiting. Quite certain it is, however, that bees are just now working 'as if'—to quote John Walton's 'Echo' of last week—'they were on "piecework" from daylight till dark;' and so our readers must imitate their good example, forget the wintry cold and the snow as soon as it has passed away, and be thankful each day for the good thereof.

FEEDING.—Honey is coming in so nicely with us that we are perhaps a little prone to forget the needs of the bees in less favoured districts, but those so situated must keep careful watch and still attend to feeding where scarcity is even suspected. Talking of feeding reminds us of a good point made by Mr. Sharp on p. 185, when referring to the well-known effect of feeding bees overhead. What experienced bee-keeper has not noticed the fact that brood is always reared in spring between such combs as have food placed above them, and that when renewing the supply, if the feed-hole—or the cake of candy as the case may be—is moved two or three frames away from its former place, the brood begins to accumulate below the food in its new position? We have often observed this, yet never had the good sense to point it out as our correspondent has done. All the same it is, as he says, 'spreading the brood nest without disturbing either bees or combs,' and we hope readers will make a note of this very 'useful hint.' There will be less mischief from injudicious brood-spreading in spring if it be carried out only in this simple fashion.

PREVENTING SWARMING.—A safe indication of the generally backward season may be gathered from the fact that only one swarm of 1892 had been reported up to May 12th, and that one was notified in our pages last week. With a few more days of the present weather, however, no doubt a great change will be wrought, and skeps for hiving swarms will need seeking out, and the several other preparations made to which we have already drawn attention in this column. As to the wisdom or otherwise of giving room too soon for the prevention of swarming, and the hesitation some bee-keepers feel about enlarging hives in early summer for fear of chilling brood, it should be borne in mind that room may be freely given at this season at the sides of the cluster or below the brood combs with almost no risk of mischief arising. The danger comes of parting the cluster and inserting empty combs, or sheets of foundation, between the two portions. Space below will never cause chilled brood. Giving room overhead, as when adding surplus chambers, does no doubt tend to lower the temperature of the brood-nest somewhat, but not dangerously if attention is paid to warm wrapping of all section racks, &c., in early summer. It must also be remembered that preparations for swarm-

ing, once begun, are most difficult to stop or to undo. The point is to give room before queen-cells are started. Once these are begun, cutting out will not often mend matters. It is also good policy to give the bees, as the first surplus chambers of the season, boxes of shallow frames with foundation, not more than half the depth of the frame, alternated with frames fitted with 'starters' an inch deep, because comb-building, and especially drone comb-building, seems to relieve bees of some of the superabundant energy which at this season they are usually so full of, and in this way reduces the swarming impulse. Consequently, if they can be kept steadily at work in this way in chambers from which the queen is rigidly excluded, and, at the same time, are not allowed to suffer from lack of room, the bees will be far less determined in their desire for emigrating, and will most likely settle down to steady honey-storing in their permanent home. We need hardly say how essential it is that queen-excluders should be used between upper chambers and brood nests. Later on, when honey is coming in rapidly, and time is, consequently, of more value, full boxes of ready-built combs are most advantageous.

Comb-honey production requires rather different management to working for extracted honey, in that the best sections are those wherein the comb is built out and filled just when the honey season is at its best, the least satisfactory ones being usually those filled at a time when the bees work in them slowly and intermittently. Bearing this in mind, therefore, and especially referring to dealing with stocks which are strong in bees in advance of the 'season' in their locality, we consider it best to pay attention to comb-building rather than to honey-storing until such time as the regular season for surplus-gathering has begun. Plenty of room given now, even if the bees do nothing but draw out combs, will serve the double purpose of keeping down swarming and preparing for rapid storing later.

BRITISH BEE-KEEPERS' ASSOCIATION.

The next Quarterly Conversazione will be held on Wednesday next, May 18th, at 105 Jermyn Street, commencing at six o'clock. Members desirous of introducing subjects for discussion, or submitting improved appliances, are requested to communicate with the Sec. not later than Monday next. The Annual First-class Examination will be held at 17 King William Street, Strand, W.C., commencing at 10.30 a.m.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of April, 1892, was 5736*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

BEE-KEEPING IN SCOTLAND.

Like so many of the other branches of 'small culture,' bee-keeping, as a source of profit, has not received the amount of care, encouragement, and public attention which it deserves. We draw a large part of the honey, and most of the wax, that we use from abroad; whereas, notwithstanding the grudging way in which the sun doles out the shining hours in these islands, there is no reason why we should not supply our own bee-products, as well as the butter, eggs, jam, and other articles for which we have to pay so heavy an annual bill to our French and other neighbours. The sum which we pay every year for imported honey is not only a considerable but an increasing amount. From figures specially supplied to the *British Bee Journal* by Her Majesty's Customs, it appears that the value of the honey imports of 1888 was 23,609*l.*; in 1889 it was 32,103*l.*; in 1890, 41,311*l.*; and in 1891, 38,847*l.* For the first three months of the present year, the foreign honey coming under the notice of the Custom-house officials was set down as worth 18,427*l.*, the quantity imported in January alone being valued at 13,188*l.*, or largely in excess of any other month in recent years.

These facts render more praiseworthy and important the enterprise of the Scottish Bee-keepers' Association, which has just completed the first year of its existence and issued its first report. The report is in itself evidence of the vigorous spirit in which the Association has set about its task of encouraging and improving bee-keeping in Scotland, and of the good work already accomplished. Before it was many weeks in existence it numbered 150 members, and had revived the practice of the defunct Scottish Apiarian Society by holding its first show—a highly successful and interesting one—under the auspices of the Highland and Agricultural Society. That exhibition, with its working models of hives and other object lessons in bee-keeping, must have exercised no small influence in developing this branch of rural economy in Scotland. The progress made is all the more creditable and gratifying when it is remembered that the last two years have, on the whole, been unfavourable for the honey harvest, and especially for the crop of heather honey. The Committee of the Association, among other manifestations of practical activity, have collected reports from the members in the several localities, and these show that bees and bee-keepers have in many districts had to pass through a veritable Valley of Shadow last season; the Sun, which means so much more to them than to others, was niggardly in his gifts of light and warmth, and many apiarians who

did not possess a sufficient stock of knowledge, faith, and perseverance, have been 'weeded out.' Beginning its life thus in the cold shade of a backward season, there is the better prospect of the Association growing and spreading when the sun once more smiles on bees and bee-keepers. Altogether the Association has deserved a word of encouragement and goodspeed. Its aim and purpose are, perhaps, worthy of some special notice at a time when politicians and economists are giving their minds to the question of multiplying small holdings and fostering the *petite culture*. Nothing offers to the cottager and small cultivator a more hopeful prospect of combining profit and pleasure than intelligent bee-keeping.—*Scotsman.*

TECHNICAL INSTRUCTION IN BEE-KEEPING.

The class lectures on apiculture, authorised by the West Riding County Council, were continued on Saturday afternoon, April 30th, by Mr. R. A. H. Grimshaw, the hon. secretary of the Yorkshire Bee-keepers' Association, in his bee-garden at Horsforth. The open air on a fine spring day lends itself admirably to such a purpose. The audience assembled behind the gauze screen erected for their protection. There is a decided call for a race of bees without stings, and such a race undoubtedly exists, but a tropical climate would be required for it. That we cannot offer. Much, however, is done by the modern bee-keeper to minimise the evil. Where any stock of bees is found to develop vice, it is either destroyed, or the mother-bee (the queen) is destroyed, and steps are taken to replace her with one of a good-tempered strain. Such a strain seems to be possessed by Mr. Grimshaw, and can easily be cultivated by any other bee-keeper. On Saturday, the lecturer, having taken from a hive a movable comb covered by bees, and placed this in a glass observatory, devoted the hour's lecture to 'Beeswax.' The observation comb, on which were the queen-bee and young workers in all stages, was handed round the class for inspection. It was explained in detail that the ancient notion of wax being gathered from fruit or flowers is a fallacy. It is, in reality, the fat of bees, stored as surplus in the body of the bee when in a perfectly quiet state, with a hive temperature of 90° to 98° Fahrenheit. The fat, secreted by eight glands, oozes through thin films, and hardens on contact with external air. The method of cell-construction, and the why and wherefore of the admirable geometry of the hexagonal cell, were next explained, as well as the *raison d'être* of perpendicular combs. The lecturer showed how to take away surplus honey, extract it from the combs (these being returned to the bees for refilling), and, finally, how to melt down old combs for the production of wax. This can be sent to the wax-rolling mills, to be rolled out into thin sheets of comb foundation, these being fixed into new frames, on which new comb would be built, exactly on the pattern and foundation required by the bee-keeper. All the processes explained were exemplified at the time by means of bee-keepers' appliances. What appeared a highly satisfactory lecture on the subject was brought to a close in exceptionally fine weather. On May 14th, if the weather be fine, it is intended to deal with the general subject—'Honey.'

GLUEING SECTIONS.

For several years I used nailed sections, but latterly I have used white poplar sections with dovetailed corners. My experience with these is that they do not keep their shape so well, and are far from being as strong as the nailed ones. I find that such prominent bee-keepers as L. C. Root, G. W. Demaree, Will M. Kellogg, S. Cushman, C. W. Dayton, and Captain J. B. Hetherington agree in saying that their experience has been the same as mine. I have seen descriptions of appliances for glueing sections, but the machines seemed so difficult to make, or the process was so troublesome, that I never attempted it. During a conversation with Captain Hetherington at the Albany Convention, he said that if he could not conveniently glue the dovetailed sections, he would go back to the nailed ones. He then described a simple appliance which he used for putting a very little hot glue on the corners of the tenons of the narrow pieces before putting them into the section press. I have fitted up such a machine, and I find I can now glue my sections with very little additional labour. Near a wall place a kerosene stove on a stand, and on the stove place the glue-pot. The problem to be solved is to invent an appliance by means of which the end of a stick, say, an inch square, may be dipped into the hot glue by the pressure of the foot on a lever, and may then be quickly withdrawn by means of a spring. At a cost of ten cents I procured from an upholsterer a spiral spring, such as is used for sofas, &c. I placed this spring in a box, about seven inches square and fourteen inches in height. When finished, this box is closed on all sides except an opening of about an inch from top to bottom on the front side. The box is fastened vertically against the wall. From the centre of a board placed on top of the spring, a string is dropped down through the spring to the end of a treadle near the floor. This gives us the downward and upward motions. For the dipping part of the arrangement, fasten by screws to the board on top of the spring an arm extending horizontally through the opening in front. To this arm fasten the piece which is to dip into the glue, to make sure that the dipping-piece shall always come down true into the glue-pot; the piece to which the arm is attached should run in grooves, or between sort of guides. I secured this feature by running saw-cuts, say, three-eighths of an inch deep, in the ends of a piece of board about four inches wide, and of such a length that it just goes into the box crosswise.

The grooves in the ends of this piece run on the edges of two pieces of three-quarter-inch hoop iron, fastened in the saw-cuts in the opposite sides of the box. The piece placed horizontally on top of the spring is fastened with screws to the lower edge of this grooved piece, causing the vertical motion of the arm to be true every time.

To glue the sections it is only necessary to hold two narrow pieces together in the hand, even at the ends, and, after dipping the stick into the glue by a motion of the foot, touch first the corners of the tenons on one side, then those of the other, to the glue on the stick, then turn the pieces in the hand, end for end, and touch the corners of the other end in the same way. When the section is put together there will be so little surplus glue that it will require close inspection to pick out glued sections from others not glued.—S. CORNEIL, *in* '*B. K. Guide.*'

EMPTY COMBS AND OLD FOUNDATION IN SECTIONS.

As the bee-keeper goes to work to prepare his supers for the coming harvest, he is often met by the problem what to do with the unfinished sections left over from the previous season. As to the value of such sections for using again, the widest difference of opinion prevails. Some consider them superior to freshly filled sections, and fill whole supers with them, while others consider them worse than worthless except for the purpose of attracting bees into the supers, and even for this purpose they do not want more than one or two in a super.

When the subject was first brought up for discussion several years ago, I received many appreciative letters from those who had found, as I had, that it was more profitable to melt up sections filled with comb than to try to have them filled with honey. But there were some very practical honey-producers who opposed this view, and continued to oppose it in a way that was at first very perplexing to me. I had found that sections were never first class in appearance, and that, while the bees might begin work on them first, they would not be finished as soon as those started from fresh foundation. It has been generally conceded that such sections never look quite as nice, but the proposition that they are less valuable otherwise has always been opposed.

During the past two or three seasons, with their poor yields of honey, I think I have found the reasons for this difference of opinion. I have found, as others have, that, during a very light yield of honey, the two or three 'bait sections' of empty comb in each super would sometimes be filled with honey and finished before sections containing foundation had been started at all. Of course, under such circumstances, the use of sections containing drawn comb would give a larger yield of box honey, even though its quality might not be first class. But it is to be hoped that honey-flows of so light a character as this are not going to be frequent enough to make it necessary to take this point very much into our calculations.

When we closely question many of those who insist on the great value of drawn combs in sections, we find that they use only starters of foundation instead of sheets filling the section full. A comb reaching from top to bottom of the section offers much greater inducements to the bees than a narrow starter at the top, and good combs may be more profitable than such starters.

But the principal reason why many do not see this question in its proper light is, that they do not compare the sections of drawn comb with those filled with *fresh* foundation. I have known for years that freshly made foundation is better than that which has been exposed to the air for some time, but I never saw the difference so strikingly shown as in an experiment last summer. On account of lack of help, many supers were just as they had been left the preceding summer, the sections containing full sheets of foundation untouched by the bees. Wishing to try a new make of sections, two or three rows of the old sections were removed from each of a number of supers, and replaced with the new ones containing fresh foundation. Only a moderate amount of honey was being gathered, and but few colonies were making any progress in the supers, so that I was surprised, a couple of weeks later, to find most of those new sections built out and finished, while in some cases the old foundation, right alongside in the same supers, had not been touched.

If, in testing this matter, full sheets of fresh foundation were always compared with drawn combs, I think the unprofitableness of the latter would seldom be questioned. But there is a serious difficulty in the way here. It is not always possible for the bee-keeper, especially if he counts his colonies by the hundred, to use only fresh foundation. He must prepare many of his supers in advance of the honey harvest, and is always liable to have some of them left over unused. If he does not do this he must be able to count on an abundance of reliable help during the honey season, or he is liable to serious loss. On the contrary, I am convinced that he may lose heavily by using old, hard foundation. Between the two horns of the dilemma, I hardly know which to choose. What I have decided on for the present is this: All drawn-out combs, except enough of the best to put two or three in each super, used at the beginning of the season, shall be cut out and melted; all sheets of foundation that have become bleached or propolised shall be remelted, and at least one-third of the sections in each super shall be filled with fresh foundation. By 'fresh foundation' I mean that which has been exposed to the air as little as possible, and has not been put into the sections more than two or three weeks in advance of the time it is needed on the hives. Possibly it might not deteriorate very much by being in the sections

a couple of months; but that which has been kept over from one season to another, exposed to the air, is certainly very far inferior to fresh foundation. This is especially the case when it has been on the hives some time, and has been varnished over with propolis by the bees.

I consider that foundation best which has come most recently from the dipping tank and rolling mill; but that which has been papered and tightly boxed, so that it is not exposed to the air, will keep a long time with but little injury.—J. A. GREEN, *in 'Gleanings.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

SEASONABLE NOTES ON BEE-KEEPING.

[1014.] Nine or ten days of beautiful weather, bright, sunny days and warm nights, at the beginning of April induced us to believe that the long, rough, and most trying winter of 1891–92 had come to an end, and that spring had set in in real earnest. Such, however, was not the case. Since the 10th of April we have had well-nigh every conceivable kind of weather—piercing north and north-east wind, pouring wet days, several heavy falls of snow, and nine sharp, frosty nights. All kinds of vegetation are consequently very backward. Plum and pear-trees are just in blossom, and apple-trees will be in full flower in a few days. Although we have had abundance of rain, everything seems to be almost at a standstill, owing to the bitter cold winds that have prevailed. The grass in the meadows, which cattle-owners are in great want of, has scarcely begun to grow. There is, however, a decided improvement in the weather to-day; it has been glorious, and backward as everything appears to be, the bees have found something on which they have had a merry time, and many thousands of loads of pollen have been brought to my apiary during the day. To-night it is beautiful and bright, and warmer than it has been for several weeks past—probably the warmest night we have had this turn. At the time of writing—two a.m.—I sit with the door open, and am charmed with the sweet warbling of the nightingale, which has been singing almost incessantly for the last six hours.

During the fine weather above referred to I took the opportunity to examine the whole of my stocks, and put down in a book the condition and requirements of each colony. One lot, made of driven bees late in October, died during the winter, and one lot was queenless, and had to be united; the remainder (twenty-eight) are all alive and doing well. I commenced feeding with candy early in March; I put four penny packets of pea-flour to ten pounds of sugar. I don't know whether that is the right proportion, but one thing I do know is, that the bees are very fond of it, apparently preferring it to natural stores, and do remarkably well on it. When the first lot of candy had disappeared I noticed that the portion of combs over which it had laid contained patches of brood right up to the bar. I took the hint, and, when giving a fresh supply of candy, placed it further along the bars, with a similar result, and have thereby been able to spread the brood-nest without disturbing either bees or combs. Now that there is an abundance of natural pollen to be had, I have ceased giving candy, and, by way of change of diet, have given to each stock a quart of syrup; further supplies will be given as and when required. I have long since discarded the practice of giving small quantities daily; such a system took up too much of my time, and was never followed with such good results as my present system of giving a quart straight off, which is generally taken down in a few hours, and the bees packed up snugly and warm, and not interfered with again for a week or ten days.—A. SHARP, *The Apiary, Huntingdon, May 7th.*

HIVES AS DECOYS.

[1015.] Your correspondent, Mr. W. Woodley, whose contributions to your columns are always interesting and useful, following in the wake of Mr. Blankley, has suggested (on p. 175 of last week's *B.B.J.*) that County Councils should pass bye-laws prohibiting the nefarious practice of hives being used to decoy the swarms of others. But the question surely needs a little more discussion.

It has been my good fortune to have had my friend Mr. Hooker as my guest here recently, and 'bee-talk' has, of course, been an endless resource when we have been driven indoors by the never-ending rain or hail. Hives have been arranged and inspected in the few fine intervals. All is going well, and soon nearly every hive will be 'boiling over.' My friend, in that love of order and of method which should belong to every bee-keeper, wished to arrange a number of empty hives, filled with old combs, each in its proper place. Here let me say that our 'village policeman' is an ardent bee-keeper, and a frequent visitor at my house. Living five miles away, he is often glad to rest his weary limbs for a while by my kitchen fire, and to quaff, at times, a cup of that refreshing beverage which 'cheers, but not inebriates.'

Now, supposing that the bye-law suggested

by Mr. Woodley were in force, what might, and perhaps would, happen? The 'village policeman,' taking a peep, as he occasionally does, at the bees, would soon discover some 'decoy hives.' Neighbours have hives, and some of their swarms might enter one of these vacant habitations. Should not I be liable to a fine for innocently doing that which one of our best bee-masters recommends as a desirable method?

'Have everything ready and in its place in good time,' he would say. Undoubtedly there is great force in such advice. Then there are two or three large colonies of bees in the eaves of my house. I fancy I have caught one or two of their swarms. I can't catch or take *them*, but I hope to have their swarms whenever I have a chance. May I not have a 'decoy hive' close at hand to teach these vagrants the pleasures of a settled home, and of making honey for others as well as for themselves?

The present law, I should think, is sufficient for all practical purposes. As long as a man can follow or see a swarm which has issued from his hive, the swarm (so I understand the law) belongs to him. If he sees it settle in his neighbour's empty hive, he can still claim it as his own. If a man has a large number of hives, he must attend to them himself in swarming-time, or keep an attendant. Let the person in charge have a syringe near at hand, and use it as speedily as possible; then the swarm will not fly far away.—E. Bartrum, D.D., *Wakes Colne Rectory, Essex.*

[In the very exceptional case of colonies of bees without owners, and the consequent chances of vagrant swarms, decoy hives are not only unobjectionable, but of real service; nor is there any reason why bee-keepers should not prepare hives for the reception of swarms. But there are real objections to 'decoy' hives being prepared specially for the purpose of enticing the swarms of neighbouring bee-keepers into them, as stated by Mr. Blankley; and these objections are overcome in very simple fashion by the honest bee-keeper, who wisely determines to 'have everything ready and in its place in good time.' He has only to keep the entrances to all hives so prepared securely closed.—Eds.]

COMB FOUNDATION.

[1016.] Reading the remarks on the manufacture of above in your columns last week, allow me to say I hived a second swarm in a frame hive on the 12th of July last on double sheets of super foundation (twelve to the pound), and sold them in splendid condition a few days ago. I was clean out of brood foundation at the time, and I left the paper between every two sheets so as to strengthen the structure. Another time I dipped sheets of foolscap paper into molten wax stiffened with a small bit of resin, and the bees worked out splendid combs on it. Do you think we could do away with the dipping-board by using sized calico? The sort sold at 1½*d.* per yard, if well sized and stiffened, ought to dip well, and be nice to run through the rollers. Bees don't seem to mind the septum, whether it be of paper, calico, or thin board. Another point strikes me: when bees will work what is known as paraffin wax mixed with pure beeswax and resin, why not give us cheap foundation for brood nest, and tell us it contains such?—J. Traynor, *Tinahely, May 3rd.*

[To have had bees building combs on double sheets of thin comb foundation with paper between is a curious—perhaps a unique—experience; but we should not recommend such an expedient for general adoption for obvious reasons. Neither do we consider it desirable for manufacturers to begin using resin, paraffin wax, or any other adulterant in making foundation, even if, as our correspondent no doubt unwittingly suggests, sold as containing such. As to the septum, or midrib, sheets of calico have already been fully experimented with as a base for brood foundation, but only with unsatisfactory results. Among other drawbacks, the bees tease out threads here and there, and worry themselves incessantly to get rid of these threads, as they do with the loose ends of any textile fabric which is comeatable in the hive. A septum of wood has also been tried in the same way as a base for brood foundation, but that too failed; so that while there seems to be some surface reasonableness in the suggestion of our correspondent, a little consideration will, we feel sure, convince him that the true interests of bee-keeping demand that we should keep our views fixed on the use of pure *beeswax* only in all apiary work, just as we insist on pure honey for the consumer. In conclusion, we would ask, If the wax produced in the apiary of the British bee-keeper is subject to admixture with the adulterated wax of the comb foundation he uses, where will such a condition of things land us?—Eds.]

DRONE-BREEDING QUEENS.

[1017.] I am a beginner in bee-keeping. I bought a stock with young queen last year. I placed them in a long hive; they did fairly well; yielding three or four frames of honey in addition to providing a good store for winter. They have been wintered on seven frames, and when examined about a month since, were in good condition, but no sign of brood; nor could we find the queen. They were reduced to five frames, and have been gently fed since, but have not been examined until the other day.

A friend who has had some experience in bee-keeping was with me at the time, and on opening the hive we found a lot of drone brood, but no sign of worker brood; there were also a lot of drones in the hive, together with capped and uncapped brood, in various stages. We did not see the queen. My frames are fitted with 'W. B. C.' ends, and were spaced the usual distance apart. We altered the ends of alternate frames, so as to fix them at the quarter-inch spacing, before leaving the hive.

I shall esteem it a great favour if you will advise me, as I do not want to lose the stock. In thinking over the matter, I wondered if the cause of drones being raised and no workers, was one of the following:—1. Is the queen a drone-

breeder? 2. Is a fertile worker present, and has the queen been injured? 3. Have the frames been placed too far apart? 4. If the queen were all right, would it be a good plan to take out all the combs, and give full sheets of foundation, and start like a swarm?—H. B. H., *Silsden, near Keighley, May 2nd.*

[1 and 2. If there is a laying queen in hive at all, she must plainly be a drone-breeder, in which case there will, of course, be no fertile worker. As to the queen being injured or otherwise, it is impossible for us to say without inspection. 3. The frames were correctly distanced before being altered to the narrow quarter-inch spacing, which is altogether unsuited for drone-breeding; consequently any drone brood on opposite combs will so nearly touch as to prevent the young drones from emerging from the cells at all! 4. The queen cannot be 'all right,' or there would be worker brood in the hive. There is not much hope for the stock, unless a fertile queen can be given to it to replace the drone-breeder.—EDS.]

A CAUTION.

[1018.] I have just read an account by an expert in which the latter, in holding up Mr. Wells' system of working two queens in one hive, distinctly says 'and place perforated zinc between.'

Now, Mr. Wells tells us he has found a perforated wood dummy best, as being a less conductor of heat it did not take away the warmth. I think there is another reason. Is it not likely that if thin zinc is used the queens might catch sight of each other, and endeavour to fight through the holes, whereas, with a dummy three-eighths of an inch or half an inch thick, the chances of a combat would be well-nigh impossible?—E. H. M., *Hereford.*

[If Mr. Wells will kindly describe his wooden perforated dummy, stating the particular wood of which it is made, and how so thin a board—as it certainly is—does not warp when in use, he would confer a benefit on bee-keepers desirous of trying his method. It may, however, be said that the risk of the 'queens fighting through the holes'—referred to by our correspondent—is so slight as to hardly need taking into account.—EDS.]

WEATHER REPORTS.

EARL SHILTON, LEICESTERSHIRE.

April, 1892.

Maximum temperature,		5th	78°
Minimum	„	15th	20°
Mean max.	„	5th	64·6°
„ min.	„	15th	36·6°
„ temperature		.....	50·6°
Rain and melted snow		.....	1·13 in.
Highest rainfall in 24 hrs., 28th..			0·33 „
Snow and rain on.....			10 days.
Prevailing wind			N.

W. S. FULSHAW.

BAGNALSTOWN, IRELAND.

April, 1892.

Rainfall			1·37 in.
Greatest rainfall in 24 hours, 29th ..			·28 „
Number of days on which rain fell ..			11
Maximum temperature,		11th	65°
Minimum	„	15th	27°
Max. ground	„	16th	45°
Min. „	„	15th	15°
Mean max.	„	.....	56·53°
Mean min.	„	.....	38·7°
Mean ground	„	.....	30·63°
Frosty nights.....			15

The first ten days of month were very warm, and bees worked hard; but on the 15th came a fall of snow, with very low temperature, having 17° of frost on the night of 14th. Vegetation very backward.—JOHN HENDERSON.

Queries and Replies.

[531. *Making Artificial Swarms — Bee Flowers.*—1. I have two stocks of bees standing about three feet apart. If I place another hive between them with two combs of brood in it and filled up with frames of foundation, and then remove the two stocks to another part of the garden, would the old bees from both stocks, returning from the fields, take to this hive and agree there without further trouble, and could I introduce a fertile queen to them by direct introduction the same evening? 2. Could you tell me the name of the enclosed flower (it is called 'cuckoo-flower' about here, but I suppose that is merely a local name)? Also, is it a good honey-plant, sufficiently so to get a surplus from? 3. Is there any publication of a list of bee-flowers, with their relative value as honey and pollen producers? 4. Do bees always choose the flowers which give the best honey? And now I am writing, I must have a word as to the weather. Your Mr. 'Useful Hints' (and I find his hints very useful) has had very different weather to what we have had, although about the same latitude. We have had mostly a cold east wind which keeps vegetation almost at a standstill, and what rain we have is very cold, and often accompanied by snow. We have had one or two bright days, when the bees worked well on what little bloom there was, which was very little besides dandelions.—E. C. R. W., *Woodford, near Salisbury.*

REPLY.—1. We do not advise increasing stocks by the method suggested above. If it is desired to make three colonies from two, far bettter do it in the orthodox way as follows. Call the two original hives A and B, and the new hive C. In the middle of a warm day examine A and lift out the comb on which the queen is found, together with the bees and brood, and set it in C, filling up the new hive with sheets of foundation. Place C on the old stand, and, after moving B to a stand some

distance away, replace it by A. That is the whole operation. In effect, the flying bees of A join their own queen and form the new swarm, while those of B attend to the brood and rear a new queen in the old hive, A. If a laying queen or a ripe queen-cell is available, either may be given to A the day after taking the swarm from it, and so save time in re-queening. 2. The flower sent is, we think, generally known by the name 'cuckoo-flower.' It yields some honey, but is not relied on as a honey-plant for surplus. 3. Mr. H. Dobbie, of Thickthorn, Norwich, published a work on honey-producing plants, price 1*s*. 4. By no means. They usually gather from whatever source of supply is most abundant, though they have, of course, some preferences, which are not always those of human kind.

[532.] *Manipulating Bees.*—I cannot get my bees to bear examination as peaceably as I would like, and think the fault must be my own; so would you kindly tell me your mode of operating when you want to open a hive? Do you use smoke or carbolic acid? How do you use it, and how long do you leave the bees to *meditate* after giving them the first touch before you operate? Kindly explain, as if you were now going to open, what you do; it will be useful to many others besides myself just now, at the commencement of the season. If you use smoke, say what smoker you consider the best, and what fuel you use. As I am an old subscriber, I hope you will favour me with this information.—F. J., *Cork.*

Reply.—Our correspondent surely cannot have read the 'Bee-papers for Winter Reading' which appeared in our pages last year. In the *B. B. J.* for Jan. 1st, 1891, is a long article on the subject of 'Handling Bees,' in which will be found full replies to all the queries set forth above, including the various means of quieting bees and the methods of using each. Please refer to this article.

[533.] *Varnishing Hives.*—1. I have a new hive, which I wish to varnish; can you tell me how to manage it? Would staining and then coating with white varnish be the proper way? 2. Also would varnish protect the wood quite as well as paint?—W., *Doncaster.*

Reply.—1. The wood will need 'sizing' before coating with varnish. 2. That used by coach-painters (copal varnish) is the most durable, but for all out-door work nothing does so well as three or four coats of good white-lead paint.

[534.] *Setting on Racks of Sections.*—I have four stocks of bees in frame hives, two of which will soon require supering. Would you advise to put the racks of sections on top of frame without anything between, or is it best to cut a hole through the cover, say, about four inches square, and then place them on?—A. W., *Luton, Beds.*

Reply.—Remove all coverings, and set the racks directly above the tops of frames, carefully wrapping the sections for warmth, and conserving the heat of brood nest as much as possible.

[535.] *Spacing Frames for Surplus—Preventing Swarming.*—1. Is it usual to distance shallow frames for surplus further apart than a broad shoulder or a metal end will allow? 2. In putting crates under brood chambers now, to prevent swarming, would it not be as well to put five frames fixed with starters, and five full sheets of foundation?—W. T., *Humberstone, Leicester.*

Reply.—1. It is a common practice with some bee-keepers to space frames for surplus wider apart than the ordinary one-and-a-half inch from centre to centre, and may be managed by inserting slips of wood, cut from broken sections, half an inch wide, between the shoulders of each frame. Personally, and for several reasons, we prefer to work the frames at the usual distance. 2. Giving room below at this season will, of course, tend to stop swarming, if not preventing it entirely, but full sheets of foundation must be given. With alternate frames fitted with 'starters' only, a great preponderance of drone comb would inevitably be built.

Echoes from the Hives.

Dabroyne, Lisburn, Ireland, April 20th, 1892.—I cut the enclosed from the *Northern Whig* of to-day's date:—

'The Guadeloupe bees lay their honey in bladders of wax about as large as a pigeon's egg, and not in combs. The bees have no stings, are small, and of a black colour. The honey is of an oily consistency, and never hardens.'

Up to the present the weather has been fearfully cold here. Food is still scarce.—J. M. M.

Northampton, May 8th.—I fear me my 'echo' must be a re-echo of friend Walton's of last week, for I never remember such a cantankerous spring; hot and cold spells of considerable length following each other in such a manner as to lead to heavy brood-raising, and then as heavy destruction of grubs. Three times, after sudden falls of the thermometer, have I caught my bees indulging in culpable infanticide. I say culpable advisedly, for some of the offending stocks were well supplied with sealed stores, as well as candy cake. North-east winds have been the death of hundreds of foragers during the last few days; to-day the wind is S.W. and drones are flying freely, two of my stocks are 'bunching' out, and dandelion pollen, in huge masses, is being carried in merrily. One of my stocks, and one only, appears to be unable to get the loads home safely, for I counted forty-seven pellets recently dropped on the alighting-board and ground in front. Robbing has been more than usually troublesome this spring. I hear of one bee-keeper losing four stocks by it.

In my own case, on March 31st, I found my bees in a tremendous uproar, and carrying into practice the socialistic propaganda of redistribution of property. Langstroth blocks restored order in all cases except four. I added sheets of glass to these, and victory at length was mine after more than a week's tussle. I found carbolic acid powerless to quell the riot. I cannot imagine what gave rise to the outbreak. As the apple-trees are not yet in bloom, there is still a good prospect of getting stocks ready for the main harvest.—E. B.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th. — Suffolk Agricultural Society at Bury St. Edmunds. Entries close May 30th. For schedules apply C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 20th to 24th. — Royal Agricultural Society at Warwick. Entries closed April 30th; post-entries received up to May 12th. Apply J. Huckle, Kings Langley, Herts.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

WM. CLARK (Windsover, N.B.).—Bees sent are crossed with the Ligurian element, but it is several degrees removed, and in such cases the markings are very uneven in the progeny of the same queen.

A BEGINNER (Luton, Chatham).—*Ringing Bees.*—You are quite right; it is absurd to think that 'ringing' a swarm will cause them to settle. They will do so without any noisy help on the part of the bee-keeper.

*** *Several communications are held over till next week.*

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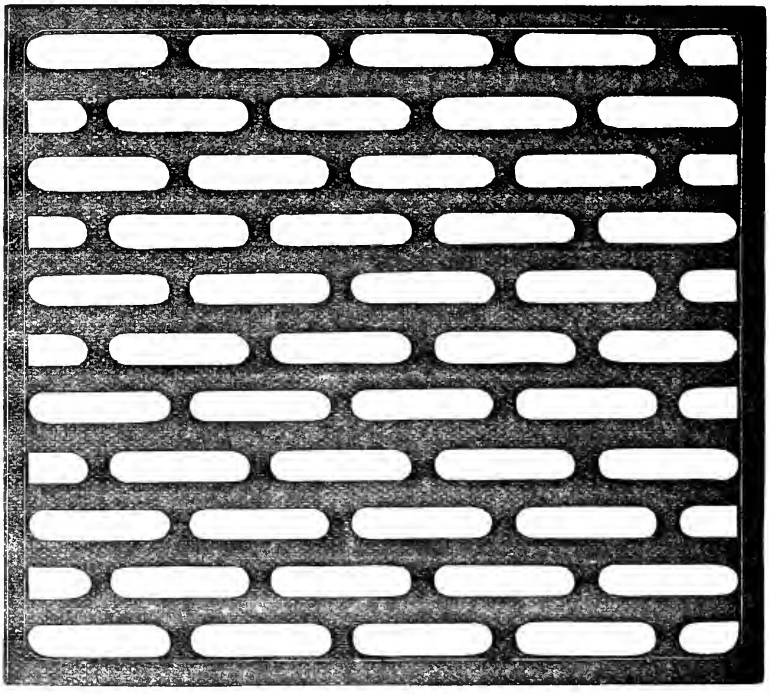

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ENTRIES CLOSE MAY 30th.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 517. Vol. XX. N.S. 125.] MAY 19, 1892. [*Published Weekly.*

Editorial, Notices, &c.

KENT BEE-KEEPERS' ASSOCIATION.

A series of five lectures on Practical Bee-keeping has just been given under the auspices of the Kent County Council. Mr. Garratt, of Meopham, was the lecturer appointed, and most ably placed before his hearers the results of his long experience as an 'advanced' bee-keeper. The first lecture was given on Monday, May 2nd, and was mainly confined to the physiology of the bee, the various powers of these extraordinary insects being well explained by the lecturer, and demonstrated by large charts on which their various parts were drawn. The lecturer expressed a hope that bee-keeping would become a great national industry, the large demand for honey being now met by a considerable foreign importation. The lack of national interest in it is very well shown by the fact that the charts above referred to had to be procured from Germany. Our own county, being the garden of England, might well produce one ton of honey from each parish on an average, or 400 tons annually. This amount, at 6*d.* per pound (a very low estimate), would represent a return of 22,400*l.* It is unnecessary to say that this would be a considerable help to our agricultural classes.

The second lecture explained the reasons for swarming, and the method of hiving bees, and so increasing and starting colonies, and also the methods of feeding and the times when this was necessary. The practical use of comb foundation was also shown. The building of their own combs by the bees is a very exhausting work, about 1½ pounds of comb, or sufficient to fill a standard bar-frame hive, costing the bees as much material as the production of about twenty pounds of honey. The wisdom of giving them foundation comb on which to work, and which costs about 2*s.* per pound, is therefore obvious.

The succeeding lectures were taken up by descriptions of different sorts of hives and apparatus for bee-keeping. A few simple carpenter's tools are all that are required for making bar-frame hives, and the winter evenings might well be employed by many in this work, whilst those who cannot do this can procure wooden hives at very cheap rates, or, cheaper still, the improved skep hives, which, although inferior to those with bar frames, are yet very useful; with both *pure* comb honey can be produced in abundance, and the unprofitable practice of killing the bees to get only *impure* honey is rendered quite unnecessary. The lecturer also gave some valuable hints on the prevention and cure of some of the diseases of bees. At the last lecture, Mr. Glennie, of Sevenoaks, an old member of the British Bee-keepers' Association, exhibited some microscopic slides of various portions of bees. A hearty vote of thanks, both to him and Mr. Garratt, was unanimously passed. The Rector, Mr. Swanzy, and Mr. Stepney, presided at the different lectures.

We have much pleasure in saying that the Kent Horticultural Society have arranged to have the County Association's 'Bee Tent,' and an exhibition of bee-manipulations at our coming flower show in August, and we have hopes that a local branch of the Association may be formed for Sevenoaks. Mr. Garratt, in spite of the unfavourable weather, was able to illustrate his lectures by manipulating bees during the afternoons of two of the days, and by this means made the lectures more graphic than they would otherwise have been.

TECHNICAL INSTRUCTION IN APICULTURE.

The Hon. Secretary of the Yorkshire Bee-keepers' Association (Mr. R. A. H. Grimshaw) gave the fifth free class lecture on bee-keeping, in connexion with the technical education scheme of the West Riding County Council, on Saturday afternoon, the 14th inst., in his bee-garden at Horsforth. Amongst those present were Alderman Rishworth and Mr. J. Salter, County Councillors residing in the district. The lecture was a continuation of a fortnightly series, held in the open air during the summer months, to be continued on winter evenings at the Yorkshire College. The lecturer showed how the active principle of the plant, poisonous in concentration, but highly medicinal and beneficial in the diluted state, pervaded its whole structure even to the flavouring of the nectar; thus does honey get its characteristic aroma, enabling the expert to name its origin, be this fruit blossom, lime, clover, or heather. Mr. Grimshaw then detailed the methods em-

ployed abroad for the adulteration of honey, and for the manufacture of unwholesome bogus stuff, imported as honey certainly, but which was in reality glucose, often so charged with the acids used in its manufacture that it was most injurious as an article of diet. The beneficial use of honey as a cheap substitute for butter, and its advantages in dyspepsia, asthma, bronchitis, and many disorders of the air-passages, were briefly explained, and statistics were again repeated showing the ignominous position of Great Britain as a honey producer when compared with other countries where bee-keeping was not only encouraged by the State, but was a regular item in the curriculum of matters taught in the schools. The lecturer then forcibly appealed not for pecuniary but for the moral support of his hearers in aid of Bee-keepers' Associations, by means of which it was sought to teach the people that if the honey-bee did not gather a single drop of nectar for our use as honey yet its service to the State was immense, for the flowers and fruits cross-fertilised by its means were heavier, finer, and better flavoured than when no such help was nigh. An hour was next spent in answering practical queries, and in explaining the various methods of driving, transferring bees from straw skeps to the modern bar-frame hives, &c. We understand the free classes are to be movable in various parts of the riding, the next being held in the garden of Mr. W. Dixon, 5 Beckett Street, Leeds, on the 28th inst., and on the following fortnight in the same gentleman's bee-garden at Pannal, when Mr. Grimshaw intends to begin again at the elementary stage.

NORTHAMPTONSHIRE B.K.A.

Mr. Jas. Adams, a prominent bee-keeper of West Haddon, kindly made and carried out arrangements for a lecture on 'The Best Methods of Bee-keeping,' of which the *Northampton Daily Chronicle* for May 14th says: 'On Wednesday evening, May 11th, an interesting and instructive lecture on bee-keeping (under the auspices of the Bee-keepers' Association) was given in the Heygate School by Mr. E. Ball, of Northampton. The lecturer had with him many bee-appliances, which he used to illustrate his lecture, among them the bar-frame hive, which he showed up to great advantage over the old straw skep. The attendance was small, but all present thoroughly enjoyed and apparently much profited by the lecture. With hearty votes of thanks to the lecturer the meeting terminated.'

QUEENS LAYING SEVERAL EGGS IN A CELL.

'Do good, prolific queens ever lay more than one egg in a cell? I procured a Carniolan queen and introduced her by giving her two frames of hatching brood. After a few days I examined the little colony, and found four and five eggs in a cell. Does that signify that the queen was a poor one, or a drone-layer, or what?'

Under the circumstances, as the querist gives them, it signifies that the queen was a good, prolific one, and as he gave her only two combs, she showed her prolificness by going her rounds at egg-laying over the combs a second, third, fourth, and even the fifth time. The bee-keeper must not decide hastily, but take all the facts into consideration.

If his hive had been full of bees, with plenty of empty cells in the combs, and he had such a state of affairs as he speaks of, then he could have concluded, upon seeing several eggs in a cell, that if there was a queen in that hive she was a poor one, or, what would have been more probable, that the queen was gone, and the hive was infested with laying workers.

A good queen in a *full* colony of bees lays her eggs in regular order, one in a cell, while a drone-laying queen, or a laying worker, will 'bunch' their eggs in a few cells, leaving the rest empty. If there is a laying worker in the hive, her eggs are apt to be bunched near or around one or more embryo queen-cells, while these embryo cells will contain many eggs, and often eggs and larvæ together; but so far as I have observed, a drone-laying queen does not place several eggs in an embryo queen-cell. In this way I can decide at sight of the embryo queen-cells whether there is anything in the line of a queen, in any hive where work is not going on as it should be.

In early spring, when there are few bees in a hive, or by any division of brood or bees, where there are few bees with any queen, the finding of several eggs in different cells does not argue that the queen is necessarily a poor one, but, on the contrary, says she is very prolific, but does not have room enough inside of the cluster of bees to deposit the number of eggs she desires, where only one is placed in each cell.—G. M. Doolittle, *in* '*American Bee Journal*.'

WEAK COLONIES—SPRING DWINDLING.

The over-anxious novice, in his anxiety to make every colony succeed, frequently injures rather than promotes the welfare of the apiary. To take a comb of brood from a good colony to help a poor one before the hive is full of bees and brood actually injures it more than the weak one is worth; besides, it is a poor place to put a good comb of brood, because the bees cannot protect more than a spot on the comb in the centre of the cluster. As a general thing we do not help weak colonies; it is better to lose them than to injure the best ones helping them. The best plan is to put a thick quilt or oilcloth over the few frames the bees cluster on, tucking the sides down between the combs just outside of the cluster. Have the quilt large enough to reach nearly or quite to the bottom of the hive. Make a hole through it directly over the centre of the cluster of bees, and put

over it an atmospheric bee-feeder, full of syrup. A small cluster of bees, covered up warm and snug in this manner, and supplied with all the feed they can take constantly, will improve very fast, and soon the weather will be warm enough and the season advanced so it will be safe to place an empty comb in the centre of the cluster. This comb, with the feeder occasionally filled, will be filled with brood and syrup in a very short time. With this plan every step is certain, and the improvement of the colony is gradual but permanent, while with the common practice the bees may suffer for the want of food and on account of cold, not being able to protect themselves surrounded with empty combs.—*Bee-keepers' Guide.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

WORKING TWO QUEENS IN EACH HIVE.

[1019.] In reply to the request in your foot-note to No. 1018, p. 187, that I should describe the wood perforated dummy for dividing bees when working two queens in one hive, I beg to say the kind of wood I use is the best yellow pine, about ⅛ in. thick, shoulders projecting the same depth as the thickness of top bar of frames used (mine are ⅝ in. thick), so as to be level with top of frames when in position.

Warping is prevented by folding a strip of light tin round the ends, leaving a small piece long enough to turn over top and bottom. I make the holes first with a bradawl, then run a hot iron through about ⅛ in. thick, each hole being about ¼ in. apart. I think we shall not get anything better by way of a dummy than this; the thinner it is the better, as in winter we want the one lot of bees to help to keep the other lot warm, and a thin wood perforated divider not being a conductor of heat, encourages the bees to cluster as close on both sides of it as possible, which is very beneficial at all times. I do not think the queens try to fight through these small holes, but they might do if the holes were much larger. Perforated zinc might do in the summer-time, but would be distasteful to the bees in winter; so much so, that it would cause them to cluster quite clear from it, whereas we want them to cluster as close to it as possible, and the thin, soft wood divider appears to retain the heat of the bees, and encourages them to do so.

I have received a good many letters upon the subject, and cannot spare time to write to all, so will ask my correspondents to accept this as a reply, and will try to answer all questions in future in some way or else through your columns. At the last meeting of the B.B.K.A. one gentleman said he would send me a queen-excluder dummy of the correct pattern if I would use it instead of the thin wood dummy (above mentioned), but I do not think it would answer, as the two queens might come too closely in contact, and perhaps fight through the openings; again, it would not answer in the autumn when we want to add a nucleus to the same hive. In doing this, my plan is as follows: Suppose I have a hive in autumn with two queens in it—one is old, the other a young one, and the frames run at right angles to the entrance. In the evening I lower the floor-board and slip in the wedge, which has a groove along the top side for the dividing dummy to drop into about one-eighth of an inch deep; this done, the hive is prepared for winter quarters, and nothing more is required to be done but to slip in the block in the front, which has now an entrance two inches deep the whole length of the hive. I then catch the old queen, withdraw the dummy, and push all the frames and bees up to one side, removing such frames as are not covered with bees. If there are more bees than can crowd on this reduced number of combs, they will cluster in the space between the slanting floor-board and the frames. The dummy is now replaced in the middle of the hive, and a warm, thick one also is placed close up to it on the empty side. The empty half is then left vacant for a day or two, but carefully closed so that no bees can enter; in the meantime the nucleus which is intended to fill the empty half is brought about three feet nearer to the place each day until it is close up to the shut-up portion of the hive. After the bees have been flying in and out in this position for one day, in the evening the thick dummy is removed, and the frames and bees are lifted in a body from the nucleus hive and placed in the empty half of the hive. The entrance is then opened about three inches by three-eighths of an inch, and the nucleus hive removed right away. Next morning the bees work as if unaware that they had been shifted, and if they have plenty of stores and are covered up warm they need no disturbing before the end of March or the beginning of April in the following year, and they will then most likely soon want more room.

No doubt many bee-keepers have already got some long hives by them holding twenty or more frames, with the entrance at one end; but these do not work so handy with me as those with the entrance along the front and frames at right angles to it, and with two queens in them. You have not the advantage of lowering the floor-board in front, thus giving a slanting floor

and room below the combs at the same time, both of which are very desirable in winter. However, I have converted mine by making another entrance at one side close to the back. When I want to work the bees on the method described above, I first turn this hive about a quarter way round, and leave it so for one day. Next day turn it further and leave it for another day, at the same time working the bees in nuclei, as described above, up to the spot where the permanent entrance is to stand. If I want the new lot of bees to use the side entrance, I withdraw the dummy after removing the old queen, and push all the bees with the one queen to the front, and proceed as before described.

If my correspondents will follow the general outline of the plan as described, they will find very much less work and very much better returns from their bees. Those who object to the plan and say that you cannot keep the stocks even in strength, should look out and always keep good young queens that would be no trouble to them. Whether it be a new or an old plan of working bees, matters but little; but it has been a source of very much less trouble, and very much more profit to me, and one queen only in one hive is a thing of the past in our apiary. If there is any detail not made sufficiently clear, I will answer further questions to the best of my ability.—G. WELLS, *Aylesford, May 16th.*

NOTES BY THE WAY.

[1020.] We have had a few days of fine weather, and the hives are filling up rapidly with bees and some honey. The sycamore-trees are just coming into bloom, and the turnip fields, where any are left, are yellow with blossom; the trefoil, or hop-clover, as it is called in this part, is also putting forth blossoms: the beech-trees were, on Sunday, the 8th inst., one busy hum with the bees and other insects. It is some years since I noticed so many bees around the beeches. Our primary want in this district is rain, to ensure a good crop of hay; this means, weather permitting, a good crop of honey. The fields of grass are suffering from the continued drouth, except the sainfoin: this plant takes a deep root, and does not suffer from a dry spring, as do the white clover and (hop) trefoil, &c. Vetches or tares are very stunted and bare for the middle of May. We have a small piece of Alfalfa within reach of my bees, that is about a mile from both apiaries, and I hope to test whether, if it is allowed to bloom, it is visited to any extent by bees in this country.

Our American cousins praise its honey-producing qualities very highly. It is called by the farmers 'Lucerne.' Perhaps some of our observant bee-keepers in different parts can enlighten us as to its value to the bee-keeper. Alsike clover—the Swedish hybrid clover, known by the name of 'Alsike'—is a capital honey plant, and is visited by bees all the day long. The fact that bees visited the plant while in the adjoining field the sainfoin flowers spread their feast of nectar proves that honey in abundance was to be found in its tubes, and easily reached by the bees.

The subject of planting for bees is continually cropping up in the American bee-papers. Would it not be to our interest as bee-keepers and honey-producers to follow in their wake, and discuss the matter amongst ourselves? The constant and increasing quantity of land laid down to permanent grass every year must in time have an influence on the honey crop, as the quantity of honey that can be gathered from a meadow is very small in comparison to the same yield under rotary crops. The few flowers of white clover sprinkled over the meadow land is the principal honey-producing plant on it; therefore, our aim should be to get a quantity of trees, such as sycamore and lime, planted around the borders and about the meadow land, as shelter and shade for the cattle. These trees will begin to blossom in about ten years from planting, and will become valuable as timber to the second or third generation, besides being valuable to the tenant farmer as a shade for his cattle from the scorching sun in the summer in a few years, and also to the bee-keeper of the future from the years of its first blossoms till the axe is laid to its roots.

The Hooker self-hiver is another point gained, though I fancy it will be more expensive to make than some of the American hivers. I take it the cover on top of the swarm box is the cover of the hive, therefore the 'hiver' is the pieces at the sides. The thumb-screws and the perforated zinc cost about 1*s.* 6*d.*—ready made say 2*s.* 6*d.* The drawing does not show any method of preventing the queen from returning to the hive she has just left below, and I opine the entrance to the hive on the top is by way of the board covering the top of the hive, the part not covered by the swarm box forming an alighting-board for the new swarm until the apiarist can attend to it and place it where desired to remain. Where are our inventive manufacturers? Here surely is a line that will pay if a satisfactory self-hiver can be made.

I have looked through both apiaries during the past week, and find my strongest stocks in those hives that have ten, and, in a few cases, eleven frames left in all the winter. Last entry on the register: *October*, '91, and a few January, '92: no disturbance since the above dates. This applies only to strong stocks, left with abundant food. Some of the eleven-frame lots have brood in ten frames, and I should have spread the brood-nest if there had been frame capacity in the hives. This fact speaks volumes for the prolificness of the English queens, when ten frames of brood—some nearly solid with brood from bottom to top—without any further stimulation than plenty of stores, can be found in the second week of May in a moderately backward district—a district where our honey-flow does not open till about the 10th of June.

I notice Dr. Bartrum inclines to the idea of doing as one wishes in the matter of decoy

hives, on the hope of catching stray swarms from his buildings. There are always several sides to a subject. I, too, would echo the old cry, 'Be ready,' but instead of locking the stable door to prevent the horse being stolen, I say lock the hive door, and by this means prevent the entrance of our neighbours' swarms of bees; but to prepare hives with combs or foundation, quilts and all ready, and leave open the entrances, if any other man keeps bees near, is certainly a questionable proceeding, if we acknowledge individual rights in bees, as I have noticed many times that swarms, when a place has been selected, do not wheel round and round in the air some time, but will go straight to the selected roof, hive, or hollow tree, with very little commotion compared to the swarm that has to select an alighting-place after it has left the parent hive. Of course, the apiarist who is 'monarch of all he surveys' in the bee line in his district will feel at liberty to do as he likes. Those who have neighbours who keep bees, if they want to cultivate neighbourly relationships, will do well not to decoy neighbours' swarms into their hives. In bee-keeping, as in all other walks of life, if we do to others as we would have them do to us, we shall feel and have the greatest satisfaction from our pursuit.

Mr. Wells' system of working two queens in one hive still receives attention. I have had some private correspondence on the subject with bee-keepers. The system, to be given its full scope, will require some long hives—that is, if two prolific queens are to have sufficient room, and in good districts, I do not see why a double colony should not secure a double quantity of honey, or, say, 200 pounds. The greatest objection is, that both colonies will swarm together if only perforated zinc divides them; but I have not found this objection with twin hives. With half-inch board division between the two distinct colonies, these long hives can be worked with a long super to match, fitted on the top, and a grand sight it would be to have a super of combs ready for the extractor that required help to lift it from the hive. This would gladden the heart of the poor bee-keeper, and he would be able to see a competence for old age in the bee line, even if visions of wealth did not disturb his rest. These ideas are drifting to larger supers—divisional, certainly—but in direct contrast to our American cousins, who are moving towards smaller hives, lighter supers, and even divisable supers, similar to those we are leaving, if not already left, behind; in fact, they are taking on handling hives instead of frames. Mr. Wells' plan will develop unwieldy hives if it is taken up. There are points in its favour that must commend themselves to any thinking apiarian—but space forbids further digression to-day.—W. Woodley, *World's End, Newbury.*

DECOY HIVES.

[1021.] Referring to this subject it may interest readers to read the following:—A few years ago, being anxious to preserve pure Ligurians, Mrs. Hunter, 'Irish Balmoral Hotel,' Woodenbridge, forty miles from Dublin, allowed me the privilege of erecting four frame hives, containing Ligurian bees. They did well for some time, but when left solely depending on their own shifts they died out, leaving the four hives of empty comb. The following season I went down to examine the hives, and decide what I would do with them, when the landlady accosted me thus: 'What do you want for your hives? Your bees died out, and the hives are again full of bees, but they are "my luck," and I must have them.' I accordingly struck a bargain, and left Mrs. Hunter both hives and bees, Mr. Hunter jocularly remarking at the same time, 'I think it best to take all the honey, let the bees die, leave the combs there, and we'll have plenty of bees every year.' The station-master told me one of his swarms went straight ahead into the first empty hive, and subsequently swarms took possession of the other three. The last came from Lord Carysfort's. I think it saves a good deal of bother and fighting to have some such receptacle for absconding swarms. The station-master remarked, 'Mrs. Hunter is too good a hostess to have any bother with her over the bees.' Any of your readers visiting 'rural Ireland,' will find two splendid hotels at Ovoea, Mrs. George Hunter's and Mrs. Pat Moore's, the 'Vale Hotel,' from which journeys may be made to Glendalough, Glenmalure, where the Irish chieftains kept court like monarchs in the palmy days of old.—J. Traynor, *Tinahely, May 14th.*

LECTURE NOTES.

[1022.] I propose to invite those gentlemen among your readers who are engaged in the dissemination of a knowledge of our science as lecturers, to an exchange of views through your columns from time to time, under the above heading, and this for the purpose of mutual aid, encouragement, instruction, and, perhaps, warning; telling one another points of experience, which may be serviceable as helping lights how to steer, or as danger signals directing attention towards what to avoid. I do not doubt this will be productive of distinct good individually. Collectively, too, the binding together by a sympathetic bond of union into a sort of association (certainly in an association of kindred spirits) may, when bee-keeping has grown still further in public importance, I hope, ultimately lead to the formation of a guild which will considerably strengthen and increase the usefulness of the great Association—the British Bee-keepers' Association—of which we are proud to be the affectionate offspring. Perhaps a 'Lecturers' Guild' may be a dream of the remote future, but surely it is as much within measurable distance as was the present usefulness of county associations before Mr. Goschen taxed the publican's wares for the benefit of technical education.

My experience as a lecturer dates from shortly before I took the Secretaryship of my County

Association in 1886, when I was asked by a friend (to whom I had verbally expatiated on some 'wonders of bee life') to jot down some of the facts familiar to all students of apiculture, and deliver the result as a lecture in a Methodist New Connexion chapel in Leeds. Well do I remember the marshalling of my collection of marvels on manuscript (in a book I shall long revere), a collection sufficient for half-a-dozen lectures, by the way; the nervous, laboured reading of this lecture was, I think, *the* labour of my life. Well do I remember a warning that in my audience was a pewful of well-known Secularists who had 'come to scoff,' but 'remained to pray,' for the chiefest of them apologised for making haste to propose a vote of thanks to the lecturer. After this my poor services were freely asked for, and freely given in many quarters. This practice, and the necessarily extempore work of lecturing with our bee-tent at the Yorkshire Agricultural and other shows, emboldened me to make an effort at extempore lecturing, a judicious arrangement of lantern slides being the only notes I had necessary for an ordinary sequence of instructive observations.

Instead of a much dreaded dearth of ideas, followed, perhaps, by a hesitating breakdown, I was surprised to find subject-matter crowd into the mind far more rapidly than required, the true difficulty being to keep ideas back—ideas which would ramify like the branches of trees into mere twigs of information far away from the trunk of the discourse. Hence it was that I was compelled to make notes, accompanied by statistics (statistics should always be in black and white) simply to keep one from straying. I find it easier to *arrest* and afterwards *hold* the attention of an audience by judiciously mixing the component parts of the dose you desire your hearers to swallow and stick to. Let the purely practical listener have a few figures of hive measurement, &c., to remember, whilst a bit of fat on the question of the non-conducting power of dead air, cork dust, chaff, and what not, may suit the palate of another; the reason of hive darkness and the means adopted by the bees to secure it, may perhaps be to the taste of another class of listeners. To be intensely practical without explaining the theory of what we wish to inculcate, appears to me as great an error as to theorise without practical exemplification. Consequently I find the open-air class lectures in my county, at which many things treated of can be worked before the eyes of an audience, bring together people whose intent, eager gaze shows that the science taught is being mentally assimilated.

Another point I try to bear in mind is to speak in popular language, 'easily understanded of the people.' On one occasion a young lady explained the difficulty she had in understanding some of our terms—when we spoke of 'foundations' being 'drawn out,' whereas it was almost always built upon! Another instance was that of a young man who heard me say four years ago 'that the careful bee-keeper did not waste old combs and scraps of wax, he gave them back to the bees as foundation for other combs.' He did not know till recently that we did not give it them just as it was or *en bloc* for them to fetch as they wanted it. All queries should be calmly and quietly answered even though they come from 'old apiarian hands' who would try to catch one napping, and the temptation to say 'smart things,' if one be unfortunate enough to have the ability to do so, ought to be passed by. These few points come most readily to my pen as a start to a correspondence or interchange of ideas amongst lecturers which I trust will be of mutual advantage.—R. A. H. GRIMSHAW.

A SKEP TAKEN BY STORM.

[1023.] If you purchase a skep of bees, see that you look into it yourself, and make sure that there are a proper quantity of bees, that they have wintered well, having a young queen and plenty of brood.

To 'look before you leap' seems but trite advice to give, but it is too often broken, with disastrous results to the apiarian. The example I am going to give is, however, the exception that proves the rule. The other day I had the offer of a skep from a 'bee expert' for seven shillings, and, as it was a cold day, I did not turn it over, but took the man on trust, satisfying myself with a look into the feeding-hole, and an assurance that there was brood and a young queen. I brought them down south the next day, and, on examination, found a few hundred bees, with no signs of brood; so, with much chagrin at my gullibility, I left the hive in my apiary, gently feeding, as a forlorn hope. You can judge of my surprise and pleasure when, on the 9th of May, I found a large swarm had taken forcible possession of the skep, leaving a few hundred corpses of the former inmates outside; they are now working away with a will, and will turn out a strong lot.

Of course unconsciously, the weak stock acted as a 'decoy hive,' but, as I have found no claimants to the swarm, though I am sure it came from none of my seven stocks, I take with pleasure what Providence has chosen to provide me with.—LALEHAM, *May 14th.*

BEES SUCCESSFULLY TAKEN OUT TO BRAZIL.

[1024.] Your readers will, no doubt, be interested to hear about a successful attempt at taking a hive of bees all the way to Santa Catharina, in the south of Brazil.

My brother, who is the manager of a railway out there, came home for a few months' leave, and being interested in bees, thought he would take some out with him, as well as a hive or two in the flat, and other necessary apparatus.

After mature consideration, we decided to use a ten-framed box, with perforated zinc at the top, and over that the ordinary quilts, all being surmounted by a piece of oilcloth, to keep any wet off.

Representatives of one of the big bee-houses said, 'Oh! they would never do like that; but they could pack some for 3*l*.'!! (*sic*).

The voyage in the refrigerator of the steamer (on the top of a pile of tongues) was merely a prolongation of our winter, I imagined, but when a change of steamer at Monte Video had to be faced, and no refrigerator, the troubles, I thought, would begin, as, instead of being dormant, the perforated zinc would be in requisition for the bees to obtain sufficient air.

I give below an extract from my brother's letter, and perhaps our Editors will say what the stingless bees of Brazil are like, and if we could not have some sent here.—W. C. Brown, *Appleby, North Lincolnshire.*

Extract from letter:—

'I think I told you that I got the bees into the refrigerator at Liverpool on the 2nd March, and when I left the steamer on the 29th, they were all buzzing, and seemed to be as alive and fresh as when I took them on board.

'I arrived at S. Catharina on the 4th April, and there I let them fly for a day and a half, and then took them on to Piedade, where I arrived on the 7th April.

'There is no doubt the bees suffered a good deal after I left Monte Video, as on two or three days I found the perforated zinc at the entrance blocked up with dead bees, and I had to clear it out. I have let them fly now in my garden, but I am sorry to say I cannot transfer them into a proper hive yet, as I was not able to bring on the case with the hives, as, when I left S. Catharina, they had not been dispatched through the Customs. I hope they will be all right; they keep flying in and out, and have already commenced to remove dead bees.

'There is one of the men on the line has some bees; he finds them in trunks of trees, &c., and chops the piece off, and takes it home; he gets a good deal of honey and wax, and I think bees will do well here; the bees he has are stingless, so bee-keeping will lose a little of the excitement which attaches to being stung.—*Laguna, S. Catharina, Brazil, April 8th*, 1892.'

Queries and Replies.

[536.] *Bees becoming Vicious.*—I should esteem it a great favour if you would afford me a little information, through the medium of your valuable paper, to which I have subscribed for three years past, during which time have kept bees, and have had no cause to complain of the results obtained—never less than twenty pounds per hive, and on more than one occasion over sixty pounds. However, my difficulty now is this (and the fault is either on the part of the bees or on my part): whenever I go to examine a hive, or even to feed the bees, I find myself surrounded by a crowd of angry bees, who do nothing else than buzz, round my ears and sting when they get the chance the whole of the time I am anywhere near. This is treatment that I have not been used to since my first bee-summer, four years ago. I then took the advice of a friend of Mr. Neighbour's, who said, 'When you wish the bees to go anywhere for your convenience, you must put them there without asking their consent to the change.' This I forthwith did, and until now they have been most civil to me. During the last spell of fine weather I turned them all into clean hives, but this I do every spring, and have never before known them to retaliate. Can this be the cause of the warfare now on? I should be extremely grateful for your opinion on the subject, and also for any suggestion you can give me as to means of pacifying them and staying this demoralisation.—E. Baillie Smith, *Harrow.*

Reply.—If the viciousness complained of is confined to one hive, we should attribute the fault to the bees, as odd colonies do occasionally develop that bad trait in a very marked degree, and the bee-keeper takes the earliest chance of re-queening such stocks. If, however, the fault extends to all the stocks, it tends to show bad handling. But we cannot charge this against you without some idea of your method, no details of which appear above. It is quite certain that experienced bee-keepers are never troubled in the way described, but they are careful not to carry the principle too far of making bees do as desired 'without asking their consent.' Moreover, if they stoutly resent the carrying out of an operation, it is the essence of good management to defer it till another day, when no pugnacity at all may be displayed. Quiet, careful handling, and the judicious use of a little smoke, are the main points, and a strict observance of these items usually accomplishes the end desired.

[537.] *Detecting Foul Brood.*—1. How can I distinguish chilled brood of long standing from foul brood? 2. Could there be in a case of foul brood healthy larvæ in the next cells, and even young bees issuing from their cells in the same comb? 3. Would two or three cells containing coffee-coloured matter be sufficient evidence of the existence of foul brood? 4. Does the offensive smell give conclusive evidence of foul brood? 5. In what stage of the larva does the disease attack its victim?—Suspicion.

Reply.—1. Chilled brood, though dead and decaying, does not assume the brown, ropy consistency of foul brood. Offering, however, as it does, a congenial medium for propagating the germs of the disease, there is no doubt but extensive quantities of neglected chilled brood will develop the genuine disease in many cases. 2. Yes; frequently. 3. Yes, if the appearances are correctly judged. 4. The 'offensive smell' of the real article is pretty conclusive evidence of its existence; but, on the other hand, there are frequent cases where the disease is present and yet the smell is not nearly so bad as that of a decaying mass of dead bees and brood, such as are sometimes found in the hives of careless bee-keepers, which have been allowed to perish and decay in the combs without any trace of foul brood about them. 5. In various stages; usually in three or four days after the egg hatches.

[538.] *Thin Foundation for Extracting Frames.*—1. On opening three of my hives a few days since, I found the coverings were fastened down with a green-coloured substance, and a strong odour is emitted in the neighbourhood of the hives. Is this usual, or does it indicate anything amiss? Two hives only had been fed with syrup. If anything wrong is indicated, kindly say what and how I am to treat them. 2. I am working three hives for super honey in five-and-a-half-inch frames. Would full sheets of thin foundation be suitable for these, as I have no extractor? 3. Could I obtain the loan of an extractor from the Association, as we have no Branch Association here? 4. Looking over a neighbour's hives the other day, we found five out of seven stocks dead, all in skeps. The combs are good. Would it be advisable to use these for a swarm after disinfection? 5. I have one strong stock, the bees of which are working well in sections, as we have plenty of fruit blossom in the neighbourhood. Should a swarm come off, how ought I to proceed?—INQUIRER, *Launceston.*

REPLY.—1. Most probably the 'odour' referred to is that of the incoming honey. The fastening down of the covering above frames indicates nothing amiss. 2. Thin foundation is not so suitable for combs intended for extracting as the stronger brood foundation, but for use as comb honey, thin super foundation is the proper kind to use. 3. Extractors are loaned out by some Associations, but not by the B.B.K.A.; but with cost of carriage to and fro, and the sum charged for hire, it is questionable economy to borrow when a good machine may be had for a small sum. 4. We never recommend using old combs cut from skeps in frame hives. For the purpose of hiving swarms intended to remain in the skeps, the combs, if clean and healthy, are certainly advantageous. 5. All depends on what is desired—increase or honey only? If informed on this point, we will advise accordingly.

[539.] *Changing from Skeps to Frame Hives.*—I have two straw skeps in good working order; one of them has combs four years old in it. I expect them to swarm the end of this month. It is a late locality, although in a good season there is plenty of clover and heather. I have made up my mind to try bar-frame hives and would be glad of your advice on the following:—1. What kind of bar-frame would you advise me to use? 2. What is the best way to put a swarm into a frame hive? 3. What is the best time and the best way to get old stocks of bees transferred from skeps to frame hives? 4. What is the size of the standard frame, and how far are the bars kept apart, and how many frames are in what is termed the standard hive, and who is the maker of it?—JOSEPH MITCHELL, *West Calder, N.B.*

REPLY.—The best advice we can give is to recommend the purchase of *Modern Bee-keeping*, which may be had from Mr. J. Huckle, King's Langley, Herts, post free for 7*d.* Therein will be found full information on all points enumerated in 1, 2, and 4. Referring to No. 3, as well as to the general course of procedure best for your case, we should recommend the purchase of one frame hive only (a plain cottager's hive, costing not more than 10*s.* 6*d.*). This could be used as a pattern for home-made hives later on. Allow the strongest skep to swarm naturally, and try your aptitude for frame-hive management for a season. If it turns out satisfactorily, it will be time then to talk about giving up skeps altogether, and there will be less to blame yourself for if, in the end, skeps are found more suited to you.

[540.] *Twin Hives.*—I have a long twin hive. If the wooden dummy that now separates two lots of bees were replaced by a perforated zinc dummy, would the bees fight, or would they work amicably?—H. R. R., *Redbrook, May 12th.*

REPLY.—To make sure that no fighting will ensue, the dummy dividing the two stocks should not be of *queen-excluder* zinc, but of small-hole perforated zinc, through which the bees cannot pass. After an interval of a few days, a super may be given (above queen-excluder zinc) into which the bees of both stocks have access, and no quarrelling will ensue.

[541.] *Dealing with Weak Stocks.*—I wish to ask how I had better act with eight hives of my bees. They are very weak, having only three combs of brood each. 1. Do you think they will be in time for the clover? If you advise joining two together, I should like to save the queens in each lot thus joined in the following way, by taking all the combs of brood and bees *except* the one on which the queen was found, and uniting them by using flour. Will the first week of June be soon enough, as by that time I should think there will be five or six combs of brood in each hive? 2. With regard to the one comb of brood with the queen and bees on which would be left in the hive, if I put some ready-built combs on each side, well stored with food, do you think they would form a colony fit to stand the winter?—T. J.

REPLY.—1. Stocks of bees with 'three combs of brood' before mid-May, cannot be correctly classed as 'very weak.' Indeed, if the bees are in proportion to the quantity of brood they might be called fairly strong, and there is no reason why they should not be in good condition for the white clover crop. Under the circumstances detailed, the best course, in our opinion, will be to work the stocks apart as they now are, and run no risks of mishaps by doubling or uniting. 2. If the comb with queen and brood is left in the hive on the original stand as stated, it is quite safe to say they would make a stock for winter, seeing that all the adult bees would join their old queen.

[542.] *Bees Dying.*—Being a constant reader of the *B.J.*, I take the liberty of sending you a piece of comb with bees. Will you kindly tell me the cause of bees dying, and if there is any

fear of foul brood? I brought eight hives from the heather last year, all strong and healthy. Two died in April and two in May, all with plenty of food, having two or three frames of sealed honey. Three of them were last year's swarms.—J. E. P.

REPLY.—There is no trace of foul brood in comb, though its badly soiled condition indicates that the bees have suffered from dysentery. We fear you have not quite acquired the art of preparing the bees for wintering safety. To lose four out of eight is altogether too great a percentage, and there is no reason why so many should die if properly packed in autumn.

Echoes from the Hives.

Earl Shilton, Leicestershire, May 3rd.—It has been a wet, cold month, but when the bees could work they brought in lots of pollen. One or two hives have been lost through want of feeding.—W. T. F.

Hereford, May 5th.—Bees have done little or nothing here the last few days. Cold rains and north-east winds prevail, with ten degrees of frost some nights. One strong stock I have in a large skep, and which have plenty of the needful, were casting out drone brood yesterday. —E. H. M.

Cambridge, May 10th.—My bees seem to have wintered very well, and not much food consumed; but then you must understand I am not a clever bee-keeper. Last year, the worst I remember, although I bought five new boxes, my bees paid twenty-five per cent. on gross stock and outlay, charging everything; labour, 6*d.* an hour.—C. H. T. D.

Mundham, Chichester, May 15th.—I had a swarm on Sunday, the 8th inst., from a stock that I had doubled about ten days previously. —G. FAIRS.

TRADE CATALOGUES RECEIVED.

T. Lanaway & Sons, 26 Station Road, Redhill. —This is a compact and concise list of bee-goods, not too long, but long enough, which is saying a good deal in its favour. Messrs. Lanaway make a speciality of sending out hives and section racks in the flat, ready for putting together by purchasers. The useful-looking cottager's hive (No. 4 in list) would be improved, we think, by extending the side-pieces of porch to full width of alighting-board; otherwise it appears a substantial and moderately priced hive.

Wm. Bazeley, Naturalist, Sheep Street, Northampton.—Mr. Bazeley is the only naturalist we know of who includes bees and bee-appliances in his business. The catalogue before us has, in addition to the ordinary articles for bee-keepers' use, some specialities of a rather sensational type (patent or otherwise), which, if they possess the advantages claimed for them, will certainly give to purchasers their money's worth.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th. — Suffolk Agricultural Society at Bury St. Edmunds. Entries close May 30th. For schedules apply C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 14th and 15th.—Essex B.K.A., in connexion with the Essex Agricultural Society, at Harlow, Essex. Entries close May 28th. For entry forms apply to Mr. F. H. Meggy, Hon. Sec. E.B.K.A., Chelmsford.

June 20th to 24th. — Royal Agricultural Society at Warwick. Entries closed. Apply J. Huckle, Kings Langley, Herts.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street Bristol. Entries close July 15th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. C. THOMAS (Falmouth). — *Foul Brood—Disinfecting Hives.*—It is hard to say how hives having 'had two coats of paint inside and out' could possibly carry the infection of foul brood if the painting was thoroughly done. Is it not more likely that the driven bees put into them were foul-broody? The plan you propose to follow with the united bees would be more effectual if foundation had been given instead of ready-built combs, and the bees fed as proposed with medicated food while comb-building. Give the hives another coat of paint, and afterwards fumigate the insides with burning sulphur fumes to get into all crevices.

A PUZZLED ONE (Bath).—Perhaps it will be best for you to write to the person from whom the 'purchased virgin queen' was obtained, and get his explanation of the curious vagaries described in your note. We confess that our capability for explaining the circumstances is as limited as is our knowledge of the bees themselves.

FRANK NESS (Goole).—Comb sent is unmistakably affected with foul brood.

M. H. H. R.—Comb is slightly tainted with foul brood, but if remedial measures be taken at once, it would appear to be a hopeful case for curing.

E. G. FLOWER.—Our personal knowledge of the gentleman referred to assures us that your letter will be attended to.

EDEY & SON

Have a Cheap Line of Goods on offer. Send requirements for Priced Invoice.

COMB FOUNDATION, 2s. DARKER, 1s. 6d.
SUPER, 3s. per lb.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices' &c.

USEFUL HINTS.

WEATHER.—Notwithstanding the assertion of a writer in an American contemporary that editors of British bee journals are 'always writing about the weather,' we shall adhere to the wise precedent established by our lost but happily not forgotten predecessor in the 'Useful Hints' department, and continue to begin this column with the familiar heading so long as the filling thereof remains in its present hands. Folk—who are not Britons—say that we should have nothing to talk about but for the weather, and goodness knows at the present time many who don't dwell on these shores have sad enough subject for talk in the weather of the past few days—the information supplied by the daily press regarding the recent terrible disasters abroad, through floods, cyclones, and the like, depicting a state of things compared with which our weather troubles are small indeed. Passing by the loss of life and enormous damage done by the floods in America and the terrible cyclone in the Mauritius, when has anything occurred in these islands like the following, as reported in the *Standard* of Tuesday?

'This morning, at noon, the district of Klagenfurt, in Austria, was struck by a tremendous cloudburst. Rain and hailstones of the size of nuts fell in torrents, and when the downpour was over the whole country-side was a scene of devastation. The orchards and fruit gardens, filled with trees in full blossom, were ruined, and the growing crops in the fields were destroyed. When the storm had ceased, numbers of birds and field animals were found lying dead on the ground.'

With plenty to complain of at times, and bad honey seasons more frequent than we like, the troubles of the British bee-keeper stop a long way short of this, and, so while sympathising with the sufferers, we should be less disposed to give vent to our own small 'weather growls.' Anyway, we are quite safe in supposing that all our readers will be satisfied with the grand bee-weather now prevailing in nearly all parts of the kingdom, and the fact that bees are doing splendidly! 'Long may it continue!' will be the hopeful one's inward whisper, while the thorough-going disbeliever in the possibility of anything enduring about British weather will 'damp us down' with his 'Yes! but how long will it last?'

GIVING SURPLUS CHAMBERS.—It is always better to be too soon than too late in putting on surplus chambers, and, for indications of the right time, lift the corner of quilt on both sides of the frames. Should the space between the outer combs and the hive-sides be occupied with bees, room will probably be wanted at once; but any uncertainty will be removed if the edges of the cells on the upper portion of the combs look whiter than usual, as if being lengthened out: this is a sure sign. The activity of the bees about the entrance also shows plainly whether honey is being gathered. The thing to avoid is giving surplus room to stocks not sufficiently strong to warrant it, because in that case it rather hinders progress than otherwise by unduly cooling the brood chamber. The present warm weather must not tempt to the giving of room 'too soon,' in the sense of adding room overhead when there is plenty of unoccupied space in the brood chamber itself.

SWARMS.—In the south swarming has already begun in fair earnest. Not that it presages a 'swarming year,' because in well-managed apiaries (where only a very limited number of drones are allowed) there is none of the exciting 'roar' which, if too numerous, the drones set up at mid-day, rousing the bees to swarming, and the bee-keeper to wish the drones 'far enough.' However, swarms must be prepared for

without delay by fitting up frames with 'starters' of foundation and getting the hives set *perfectly level* on their stands.

If the present favourable weather continues, there is so much probability of busy times in store for bee-keepers in the coming week or two, we shall defer till our next issue some further 'hints' rendered necessary by the outlook.

NAPHTHALINE.—If the bits of naphthaline in hives are so nearly evaporated as to be carried out by the bees, renew the supply before adding surplus chambers.

BRITISH BEE-KEEPERS' ASSOCIATION

The quarterly *conversazione* was held on Wednesday, May 18th, at 6 p.m., in the offices of the Royal Society for the Prevention of Cruelty to Animals, 105 Jermyn Street, when among the audience present were the following gentlemen:—The Hon. and Rev. Henry Bligh, the Revs. R. Errington and W. E. Burkitt, Mr. Glennie, Dr. Rayner, Major Fair, Messrs. Jonas, Hooker, Grimshaw, Carr, Till, Leadbetter, Soar, Hosker, Field, Harrison, New, and Mr. Bligh, jun.

Mr. Leadbetter, having been voted to the chair, opened the proceedings.

Mr. Carr exhibited a section crate manufactured by Mr. Meadows, of Syston. He explained that it was made to fit inside a shallow-frame box, and to hold hanging frames of entirely original construction. There was also a method of attaching the movable dummy to any part of the crate by means of pointed bars of wire worked from a centre-shaft bar, which forced the sharp points of the bars into the sides of the crate. Mr. Meadows wished attention to be drawn to his mode of building up the frame from the flat, in which form it is sent out. With a half-turn of the screws at the ends of the frame, the bottom dropped out and released all the sections.

A general conversation ensued regarding the merits of Mr. Meadows' exhibit.

Mr. Carr remarked that the crate as it appeared to them was not warm and snug, but essentially a cold crate. It was intended, however, to go inside a shallow chamber, which would make all the difference to placing it on the hive as it was. The difficulty in raising the frames because of the projecting screws or pins was, he presumed, only a fault of detail.

Mr. Hooker saw no advantage in the invention, though it was admirably made and displayed great ingenuity. With hanging frames the sections were got out more easily than any he had seen, though it would be necessary to take out three sections always when perhaps only one was wanted; thus there was a danger of damaging the other two.

Mr. Till considered the contrivance complicated when the ordinary simple methods served all purposes.

Major Fair preferred the divisional super.

Mr. Carr was an advocate for hanging the sections in frames in preference to the ordinary rack in which they were fixed close together. With the ordinary crate it was always a difficulty (and particularly so when the dividers were in three parts) to move the sections about. If the centre rows were filled, he was anxious to get them to the outside in order that others not completed might occupy their places. He was well used to handling shallow frames, and it was particularly irksome to him, in working among bees, when he had to pass from an extracting super to do anything with an ordinary crate of sections; hence his preference for the hanging frame, in which the sections are moved about as readily as a shallow frame.

Mr. Hooker said he had worked very little for extracted honey during the last fifteen years, but had had considerable experience with sections, and, notwithstanding what had been said, he much preferred the square box with two pieces of T metal in the centre, so that the three sections touched each other and could be pushed up together by the continuous separator which went from side to side. To remove a single section so arranged was easy enough, it being only necessary to take the wedge out. He had tried Mr. Lee's (who was the inventor of the hanging frame) sections some years ago.

Mr. Grimshaw stated that nine or ten years since he had received some hives from Boulogne containing hanging frames for sections, and he was therefore somewhat surprised to hear the invention of that system ascribed to Mr. Lee. He soon discarded those frames, owing to the extreme difficulty of getting the sections in and out of them. With a common section crate it was easy to loosen with a penknife single sections, and lift them out, at the same time brushing off the bees. He objected to shaking, which was likely to damage the sections. In cases where the super-clearer was adopted, he could understand the use of a hanging frame in the crate. Speaking generally, he did not approve of Mr. Meadows' crate, but he thought the arrangement of the dummy was very good, and well worthy of notice.

The Chairman thought it might be said that, if a bee-keeper desired to work by single sections, then the old way was best; but, if he was satisfied to work three at a time, and use the super-clearer, then the hanging frames would be best.

The Rev. W. E. Burkitt always used a lock-spring in a block of wood, and worked according to the system described by Mr. Hooker.

Mr. Carr (as one who had much to do with bee-keepers, who were constantly confiding their experiences to him) recommended that sections should be moved one at a time as little as possible, and that when moving was necessary it should, if practicable, be done wholesale, and the sections cleared at one operation by the super-clearer. Of course, if a particularly handsome section was found, it might be taken out for the show-table.

An improved super-clearer was then handed round for inspection, the plan of which had been suggested to Mr. Meadows. It was simply a double cone, one within the other, by means of which bees that entered the cone were compelled to pass out at the point of the cone in order to escape.

Mr. Carr next exhibited the 'Hill' smoker, invented by Mr. Hill, of the American *Bee-keepers' Guide*. It differed entirely from other smokers, and it was claimed on behalf of the invention that any material could be used in the barrel for fuel, the draught being excellent, and capable of regulation at the desire of the operator. He had tested the contrivance, and found it answer very well. If turned on at full power, such a volume of smoke issued from the funnel that, if placed on the ground, it was desirable that the manipulator should stand between the wind and the smoker if he consulted his own comfort.

Mr. Carr also exhibited a new queen-excluding section, in which the honey was supposed to be kept in the finest possible condition at all times. This had been patented by Mr. Bazeley, of Northampton, who claimed many advantages for it. It would be noticed that the entrance to the section was cut deeper than usual, and had a groove made in the corners, into which was inserted a square of glass. According to the inventor, neither separator nor queen-excluder was required, the distance between the glass and the woodwork being so accurately gauged that only workers could pass through.

A conversation then took place as to the merits of the last exhibit, the opinion of Messrs. Grimshaw, Meggy, Soar, and others being that the space allowed by the glass was sufficient to admit the generality of queens into the sections.

Mr. Carr observed that, on passing through some strawberry-fields in Kent that morning, he was struck with the large number of blooms having a black speck in the centre thereof. He had picked a few of these blooms off the plants, and would be glad if Mr. Grimshaw, who he knew was an expert in floriculture, would look at them and give his opinion of the cause. He thought that in every case where the black spot was present imperfect fruit would result, and thus a serious loss would accrue.

Mr. Grimshaw attributed the defect in the blossoms to night frosts. For thirty out of the last forty years there had been a frost on the night of May 12th, and the recent severe weather had, no doubt, done the mischief. He did not, however, share Mr. Carr's alarm. Nature never did fertilise one-tenth of the blossoms she produced; if she fertilised all, the trees would not bear the weight of the fruit, besides, the fruit itself would be of a very small kind. Consequently, the night frosts were not without their uses. He thought the fact described by Mr. Carr was of common occurrence when a period of mild weather was followed by frost.

(To be concluded next week.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

LECTURE NOTES.

[1025.] Mr. Grimshaw's suggestion is so excellent a one that I crave permission to assist in carrying it out by telling some of my experiences as a lecturer. They are very much the same as his. For instance, I found that a written-out lecture was out of the question where so many tangible references to appliances were needful; and when I tried *extempore* 'preaching,' I found the subject so large, and its branches so numerous that it was extremely difficult to keep the lecture within reasonable bounds. So I adopted notes, for reference merely—just a word or two, to keep me on the track. My notes, for an hour's lecture, occupy three pages of a cardboard folio, small enough to go into my waistcoat pocket. I have not yet had to give an out-door demonstration, but expect a 'call' shortly. Will Mr. Grimshaw oblige me with the titles for a serial set of lectures for out-door use? Trusting that it may not be regarded as presumption on my part, I add the titles for a series of lectures for in-door use, which, I think, may be made to cover the whole range of bee-keeping:—1. Swarms and Swarming. 2. Hives and Hiving. 3. Food and Feeding. 4. Supers and Supering. 5. Harvest and Harvesting. 6. Winter and Wintering. 7. Physic and Physicking.—E. B., *Northants.*

[We shall be glad to have the views of gentlemen connected, officially or otherwise, with the work of Technical Education in Bee-keeping on the above subject, as suggested by Mr. Grimshaw. The advantages to all concerned will be very obvious.—EDS.]

THE BEAUTIES OF IRELAND'S MEADOWS AND HEATH-CLAD HILLS.

[1026.] Swarming in the lowlands of Wicklow takes place about the last days of May and through June, but nearing the heather it is no uncommon thing to have a swarm in August, and afterwards skeps of heather honey weighing fifty-six pounds. The 12th of August brings the sportsman's gun in among the busy bees

upon our heather pastures, where for miles away is seen the purple glow alive with grouse. You can smell the aroma of heather honey wafted upon a health-giving breeze. Hid away in this 'truly rural' scene, bee-keepers may talk bees to their hearts content with naught to disturb them save the crow of the grouse cock, the busy hum of bees, and warbling of the sky-lark. The most singular thing in connexion with the latter is that the lark is never heard in the Valley of the Seven Churches, or Glendalough, as the following will illustrate:—'When the seven churches were building, it was the skylarks that used every morning to call the men to their work. They had no clocks or watches in those days (St. Kevin died June 3rd, 618, at the age of 120), and the song of the lark served as a signal that it was time to begin their labour. Well, when the holy work was at an end, St. Kevin declared that no lark was worthy to succeed those pious birds that had helped in the building of the churches.' Tradition says that the men took an oath to 'begin with the lark and lie down with the lamb,' but the larks rose so early over the valley as to cause them to rise long before they were refreshed, and in consequence many died from over-exertion, which so touched the heart of St. Kevin that he prayed that no lark might ever sing over the spot again, thus saving his labourers' lives and their oaths at the same time.

The Valley of Glendalough (which the bees have all to themselves) is three miles in length and about one mile wide, surrounded by hills where learning was taught by St. Kevin, who was priested about 525 by Bishop Lugid, a contemporary of Columbkille. The saint is said to have selected this lonely wilderness to hide himself from the blue eyes of infatuated Kathleen.

> 'Twas from Kathleen's eyes he flew,
> Eyes of most unholy blue!
> She had loved him well and long,
> Wished him hers, nor thought it wrong.
> Wheresoe'er the saint would fly,
> Still he heard her light foot nigh;
> East or west, where'er he turned,
> Still her eyes before him burned.'
>
> MOORE.

St. Kevin was born in the year 498. The ecclesiastical ruins of the Seven Churches are in a fair state of preservation, with a round tower 110 feet in height and 51 in circumference. Guides point out the scenery, and depict with vividness the many interesting anecdotes in connexion. Be that as it may, I can assert with authority I have often visited the place and never heard either lark or lambkin. Best for tourists to stop a short distance away, and drive by car, although there is a splendid hotel, under good management, upon the spot. I shall feel a pleasure in having 'bill of fare and car charges' forwarded to any of your bee-keepers visiting the Emerald Isle the present summer, as Chicago will have them next year.—J. TRAYNOR, *Tinahely, Ireland.*

SELF-HIVERS.

[1027.] In sending you a short description of a self-hiver that I have made, and have now on one of my stocks of bees in a straw skep, may I say that I intend to use three or four of them myself this year, and also to lend some out to neighbouring bee-keepers, in order to give them a thorough trial? If I find they answer my expectations, I propose to make them next year for sale, and send them out under the name of the 'Rowell Self-hiver.' I see by the *Bee Journal* that mine is something similar to the 'Hooker' self-hiver, so I suppose there could be no objection to mine being called the 'Rowell?' It is intended for use with straw skeps, but it will also do for frame hives, and I claim for it some advantages over others I have seen:—1. The stock hive does not need to be interfered with. 2. The hive for the swarm is quite out of the way of the bees when working. 3. When the swarm is leaving the hive the queen must take an upward and forward journey, which seems to me the most natural way. To make the hiver, I first make a box 18 in. long, 9 in. wide, and 3 in. deep. At one end I cut a piece out to fit the entrance of the hive it is intended for, and in front of the box I fit, instead of the board, a piece of excluder zinc. At the other end, which is the top, I fasten boards to make a stand for an empty skep, 18 in. square, with a hole in the centre to match the long box. It is then put in position on the hive. To support the 'hiver,' a hole is bored in the two front corners of the board, and these holes drop over two sticks driven in the ground, and hold it in place. I should be pleased to send you one for inspection if you cared to have it. I am a working-man bee-keeper, and sell appliances to neighbouring bee-keepers.—H. R., *Winchfield.*

[We are at all times glad to afford 'working-men bee-keepers' an opportunity of bringing any useful contrivance of their own devising before our readers, and if your self-hiver is sent to this office we will give our opinion of it. Let us say also, in addition, that we highly approve of your resolve to give it a season's trial before thinking of making it for sale.—EDS.]

CURING FOUL BROOD.

[1028.] Kindly permit me to put on record a case of successful treatment of foul brood by means of Naphthol Beta and Naphthaline.

At the beginning of October, the stock had four bars, each furnished with a patch of sealed comb, very badly affected indeed. About twelve square inches were cut from each comb, and the stock, which was weak and short of stores, was then fed up with syrup, medicated to the extent of three grains of Naphthol Beta to each pound of sugar used. A couple of lumps of Naphthaline were placed on the floor-board, and a candy-cake, medicated, of course, was put over the feed-hole. The cake was renewed in spring as required. On Tuesday, May 17th, a searching examination failed to find the

slightest trace of disease; damaged combs were repaired, and the stock is now as strong as most of its neighbours. In short, it may be said that a complete success has been scored for the Naphthol Beta remedy. No measures whatever were adopted to disinfect the hive prior to feeding up.—E. B., *Northants.*

DECOY HIVES.

[1029.] I cannot see the wrong in placing decoy hives. I have no desire to obtain my neighbour's swarms, but I do wish to get my own. I have seven stocks, I am away all day, and if any of my stocks swarm, my hope is that the swarm may take to the *open*, and furnished but untenanted hives are placed ready for them; also swarms from the church roof are welcome. But does my neighbour say that I want to catch his swarms? That is an untruthful imputation, which I resent. Let him put out a decoy hive too; surely that quite fairly adjusts the matter. Why should swarms from roofs and hollow trees be lost or allowed to set up wild colonies for want of such a simple plan of making them useful as decoy hives?—J. T., *Sussex, May 21st.*

BEES IN EAST LINCOLNSHIRE.

[1030.] The bees in this district have improved in strength very much during the last fortnight; still, with a few exceptions, they are very backward for the time of year. We have experienced a most trying spring, not having had two good bee-days in succession, and very few single ones, since that spell of delightful but unseasonable weather in February, cold northerly winds mostly being the order of things, with little rain and bright sunny intervals, which tempted the poor bees out in search of pollen, only to get chilled and die. Hundreds might be seen in this state on Sunday, the 15th inst., and I heard of a merciful bee-keeper picking them up, taking them into the house, and reviving them by the fire.

Flowers have been abundant, and when bees could work they came home heavily laden with pollen of many different colours. The sycamore is now in bloom, and is visited eagerly by the bees. The hawthorn is showing in bud, just ready to burst, and promises to be abundant: so if we are favoured with bee-weather, we may hope for a good yield of honey, although the bees are not nearly so strong as at this time the last two years. I have not yet seen a drone on the wing, nor have I heard of a swarm; the skeppists all say that their bees are very weak in numbers.—EAST LINCOLN, *May 23rd.*

VASELINE FOR SUPERS.

[1031.] Now that many will soon be putting on supers, may I remind them that much trouble and disturbance at taking-off time will be avoided by rubbing vaseline all round the bottom, edges, and bearers of section crates, also hive runners and shoulders of frames, also edges of dummies.

We have had a most dismal time for bees about here hitherto—bitterly cold nights and cutting east wind, parching up everything, with only 1·04 of rain (and *all* that mingled with snow) since March 31st.—W. E. BURKITT, *Hon. Secretary and Expert, Wilts B.K.A.*

THE FIRST SWARM OF 1892.

[1032.] I see by the *B.B.J.* (1013, p. 177), the first reported swarm for 1892 was May 2nd. I beg to inform you that Mr. R. Balkwill, of Park, near Kingsbridge, had a swarm on the 7th April which is doing well. I have myself had drones in one of my hives since the first week in April, and now I see drones in four out of my six hives out yesterday. The mornings and evenings are very cold, and we had frost for these last five nights. Bees are out strong in the middle of the day. I think I should have had a swarm a fortnight since, for the bees were hanging out, but I only had six frames in the hive. I therefore added three more frames and put a super on. Since then the bees have not crowded out.—C. M., *Kingsbridge, Devon.*

Queries and Replies.

[543.] *Hiving Swarms in Frame Hives.*—I am hoping, for the first time, to hive a swarm or two in bar-frame hives this year, and should be grateful for some advice on the subject. I gather from past articles in the *B.B.J.* that the most profitable method to follow in dealing with a swarm from a supered hive is to place four or five frames of brood from the parent hive in the new hive along with the swarm, and set the supers, with bees in it, on the top. 1. Should these frames of brood be placed all together in centre of hive, and frames with foundation on each side, and the same with the frames left in parent hive? Or is any other combination better? 2. If the super is put over the swarm at once, can it be removed next day to see that all frames are safe in the hive? 3. Is there any danger for a novice in taking the swarm at midday, or is it safer to hive the bees first in a skep, and run them into the frame hive in the evening; and if so, why?—A NOVICE TO BAR-FRAMES, *May 20th.*

REPLY.—1. Under the circumstances, and with a ten-frame hive, we should place the frames in the following order:—Brood, 3, 5, 6, and 8; frames fitted with foundation, 1, 2, 4, 7, 9, and 10. The parent hive must have its frames of brood all kept close together in centre of the hive. 2. Yes. 3. We always advise beginners to hive the swarm in the usual skep, and set it on the stand it is intended to permanently occupy till evening. The reason for this is that a swarm may be handled after sundown,

even roughly, without the bees attempting to take wing, whereas, if knocked about unskilfully in bright sunshine, the swarm may take wing and decamp. Otherwise, it is best to get the swarm to work in the new hive as soon as possible.

[544.] *Unprolific Queens.*—I forward a box containing a queen just killed. She was in a hive which swarmed in 1888, not since. Can you tell me if she is old, and how old? The stock was very backward last year, and this year more so. I therefore determined to settle her myself instead of leaving it to the bees to do. I purchased this stock as a swarm in July, 1887, but never re-queened it; the swarm of 1888 was hived and formed another colony. The queen sent is therefore, *I think*, an 1888 one. The hive contains a fair number of workers and a few drones, but they were not lively as bees should be. I have now to-day given a comb of Carniolan brood, and three queen-cells nearly ripe; this ought to set them going within a week, should it not? I have a crate of twenty-four one-pound sections all drawn out, and have to-day given a further supply of twenty-four underneath. These are on a Carniolan stock full up with bees. On an English stock there are twelve shallow frames, with honey stored but not sealed; this has now another twelve underneath; this stock is also full up, re-queened last year, and if my third stock will only set to and get a fertile queen, I bid fair to do better than last year, when I took about 150 pounds from the three in spite of their swarming. As a result of the discussion at *conversazione* on Wednesday last I have altered my queen-excluders and now placed them flat on the top bars, with no bee-space below.—J. H. N., *May 21st.*

Reply.—The queen is probably an 1888 one, as you suppose. It is simply a case of unprolificness, and as such queens never do any good the sooner they are destroyed the better.

[545.] *Using Excluder Zinc.*—1. Is it best to put queen-excluder zinc on the top of a bar-frame hive, and then put the super over, or should I use no excluder at all? 2. Which is best covering to put on the top of supers, quilting, glass, or board?—John U. Ierson, *Dover, May 21st.*

Reply.—1. If by 'super' you mean a surplus chamber with frames for extracting, the queen-excluder should decidedly be used; but if a rack of sections is meant, the excluder is not imperatively necessary—in fact, many experienced bee-keepers deprecate its use below sections. 2. The ordinary quilts from the brood chamber are the best covering.

[546.] *Moths in Combs.*—I fed up successfully in the autumn—on eight frames of full foundation each—four hives of bees, and wishing to add two more frames to each, I looked out to-day some frames of combs from which I had extracted the honey, and put past for the purpose. They were straight, fresh, clean frames of comb when I put them away, but I find that they are now *slightly* spoiled by moths. Should I put them in, after carefully picking out the grubs; put them in just as they are, or discard them altogether, and put in frames with full foundation only?—W. S., *Laurieston, May 20th.*

Reply.—If the damage is only slight, the bees will soon repair it; but if the larva of the moth has destroyed the septum, or midrib, of the comb, it is useless for the bees.

[547.] *Characteristics of Foul Brood.*—1. Kindly examine the accompanying comb, and let me know if it is foul-broody. 2. What is the difference in the appearance of foul brood and chilled brood? 3. What power microscope would enable one to detect the foul-brood bacilli? I have added some of the contents of other cells in the empty cells of the accompanying combs, and have destroyed the remaining combs. These belonged to a small cast of last summer, which, when examined lately, was found very weak, and containing no healthy brood or any young brood. The queen appeared crippled and to have given up laying.—Cymro, *Glamorgan.*

Reply.—1. Comb sent contains only good heather honey, and shows no trace of disease. 2. We would remind you that the appearance of foul brood has been described over and over again in our columns month after month. The decaying matter in the cells is brown or coffee-coloured, and of a sticky or ropy consistency, having also a more or less offensive smell. Chilled brood is decaying larval matter without these characteristics. 3. About a sixteen object glass is necessary to define the spores of *Bacillus alvei.*

[548.] *Utilising Weak Stocks.*—On looking through my stocks (thirteen frame hives) this day, I was surprised to find four of them had dwindled down to three frames of bees, but they had eggs, grubs, and little sealed brood. The bees are natives. On April 30th they covered four or five frames. The stocks were all fed up in the autumn with cane sugar, were wintered on eight frames, all packed alike warm and dry, and came through the winter all right, not one losing its queen. Each stock has a little syrup in the combs; but I am feeding, some with two holes, the weaker lots one hole. They are in single-walled hives. Several of them have now five and six frames full of bees. I should be greatly obliged if you would advise what to do with the weak lots. I do not want to unite them, as they have young queens, and I can sell all the honey they can get me at home. Do you think they will get sufficiently strong for gathering surplus by mid-June (I am in the midlands), or would you advise buying more bees and uniting now, or wait a week or so and then unite other bees to them? I have plenty of worked-out combs, standard size, ready for supers, so that the bees would not have combs

to build. This is only my third year of bee-keeping, and when opening one of my hives this day, I was surprised to find that the queen had moved her quarters from the front of the hive to the back, and had started a second brood nest, having eggs, grubs, and some brood just being sealed over, while brood was hatching out in the front of the hive, but no eggs or grubs in that part, though there was a queen-cell, which I cut off and found a grub in. I had a dummy-board dividing the combs, and I suppose the queen either got under the bottom of it and could not get back, or she must have got at the back when I had them open on April 30th. There is not a single drone-cell in the hive, but there are about twenty drone-cells worked out on worker-comb lengthened, and a few hatched out. The bees in this hive are on six frames.—T. G., *Staffs, May 10th.*

REPLY.—As you are averse to uniting, there is no course other than continuing the stimulative feeding. 'One hole' is of poor service, however, as a 'stimulative' at this season. Give the bees a full pint of syrup each week till honey is to be had outside, and if the queens are fairly prolific, the stocks may become strong enough for surplus storing by mid-June. If the young queens were at fault, we might advise buying a three-frame nuclei with good queen, to replace the faulty one and strengthen the stock, but not otherwise.

[549.] *Re-queening Stocks.*—In hives where swarms are successfully prevented, but where there are queens whom it may be desirable to supersede some time this season, in view of the next, would you kindly advise as to the best time for the operation? Our mainstay for the honey harvest in this district is white clover, with fruit blossom, for thoroughly building up colonies. To supersede during the 'building up' would be very unprofitable. Would the middle of June be a good time?—as by then the colony may be full, the gradual hatching out of bees for the next three weeks would give room for storage, and a young queen beginning to lay, say, in the middle of July, would give a fair stock for the winter.—S. JORDAN, *Bristol.*

REPLY.—Hives which have not swarmed may be re-queened by destroying the present mother of the colony a fortnight or so before the honey season is likely to end. But if one stock chances to swarm, and surplus queens from it can be preserved in nucleus hives, re-queening may be deferred until the bees are being packed up for winter.

[550.] *Foul Brood or Pollen, which?*—1. With reference to the enclosed comb, would you kindly say if the same is foul brood or only pollen left from last year's gathering? This hive, having been on the moors, the comb sent was taken from an outside frame in the hive. 2. I have tried the same hive (which I suppose to be queenless) with a frame of brood taken from another stock, but the bees have not commenced any queen-cells. The greater part of the brood given is now hatched out, and there are a few drones flying; frame of brood put into hive April 19th. The bees are gathering a little pollen, but nothing like my other hives. Would you advise me to try a virgin queen, and do you think the drones would fertilise her?—JOHN H. HORN, *Bedale, May 11th.*

REPLY.—1. Comb sent contains pollen only; no foul brood about it. 2. Bees which have been for some time queenless cannot be relied on for raising a queen from brood or eggs given them. Besides, did you ascertain that the comb given had eggs or just-hatched larvæ in the cells? A virgin queen given now would almost certainly be fertilised, but the stock could not well do more than establish itself for winter, seeing how late in the ordinary honey season her progeny would be fit for field-work.

[551.] 1. Kindly tell me what sort of bees the enclosed are. I have a strong colony of them, which I recently turned out of a straw skep (taking about eight pounds of honey) and put them in a frame hive (combination), with ten sheets of foundation. 2. How long will they take to draw out the ten frames? 3. Will it be necessary to shift the hindermost frames to between the others as they are drawn out? 4. Can I, when they are filled up, instead of putting on a super crate, place three section-box frames (holding six one-pound boxes in each) at the rear of the others, with the zinc excluder between? 5. Should I still feed them until the frames are worked out? They are working right merrily.—UNCLE JACK, *Collumpton, May 16th.*

REPLY.—1. Hybrid Carniolans. 2. Much depends on the weather and the attention given to feeding regularly. May we ask what became of the brood which, of course, would be in the combs of the skep? 3. Do no spreading of the brood, or moving of the combs as built. Just keep the bees warm and well fed, and, beyond giving a glance to see the combs are being built out all right, 'leave them severely alone.' 4. Yes. 5. Keep up the supply till natural food can be had outside.

[552.] *A Beginner's Queries.*—If a super be put on a skep would it prevent a swarm issuing? 2. Can you detect honey coming in merely from the sight of the bees, apart from weighing the hive? 3. When should sections be put on a swarm—at once or some time afterwards? 4. Does a swarm issue without indications? If not, what are some of the indications? 5. Where is the honey usually stored for the winter, near the flight-hole or at further extremity? 6. If sections *cannot* be sold, what is the best way to extract the honey? The extractors I have seen seem to be for frames. 7. I found a dead drone under a hive yesterday. What does this mean?—BEGINNER, *Stonehouse, Glos.*

REPLY.—1. It will tend to do so. 2. An experienced bee-keeper can. 3. Not till the swarm is hived for a week or ten days, unless honey be coming very fast; in the latter case five days after hiving will be about the right time. 4. The indications are pretty well known to the

practised eye, but are difficult to describe; among them are the crowded state of the colony, drones flying for several days beforehand, and a disposition on the part of the bees to hang about the entrance, instead of going and coming busily to and fro, intent on work only. 5. Chiefly at the sides or back of the hive. 6. There are numerous extractors suitable for sections, some of them expressly made for the purpose. 7. Nothing uncommon.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th.—Suffolk Agricultural Society at Bury St. Edmunds. Entries close May 30th. For schedules apply C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 14th and 15th.—Essex B.K.A., in connexion with the Essex Agricultural Society, at Harlow, Essex. Entries close May 28th. For entry forms apply to Mr. F. H. Meggy, Hon. Sec. E.B.K.A., Chelmsford.

June 20th to 24th.—Royal Agricultural Society at Warwick. Entries closed. Apply J. Huckle, Kings Langley, Herts.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Notices to Correspondents and Inquirers

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. M. (Glasgow).—Insect sent is the male of the genus *Bombus*, or common humble-bee.

Radnor Forest.—We hope to give you some particulars regarding the twigs of bloom sent in our next.

J. D. McNally.—We will hand your letter to the Secretary of the Show, who will, no doubt, see that your instructions are carried out.

Jas. Morton (Govan).—The best way to get swarms into frame hives is to prepare the latter beforehand by fitting the frames with either starters or full sheets of foundation in readiness for the swarm. In hiving, fix the hive on a sheet or a newspaper spread on the ground, with its front propped up a couple of inches. Throw the swarm out in front, and the bees will run in.

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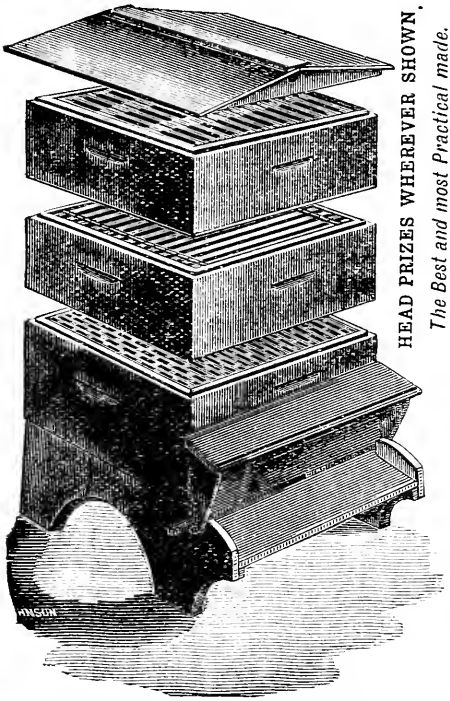

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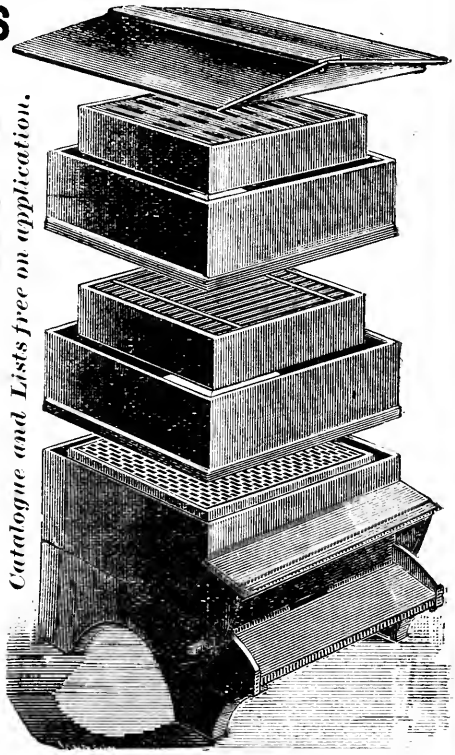

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

The fine weather still holds out well, consequently bees in early districts—our own included—are storing fast. They show no disinclination towards entering surplus chambers, but readily take possession when given; a good sign that honey is to be had, and one that augurs well for the coming season. The heavy rains which fell during the night of the 25th and 26th have done immense good to the fruit crops, as well as to clover and all bee-forage. We shall not soon forget the magnificent spectacle presented in the Cray Valley, Kent, between 10.30 and midnight on the 25th. The whole atmosphere seemed charged with electricity, vivid flashes of sheet lightning succeeding each other at intervals of not more than one or two seconds for nearly two hours. The colours of trees, plants, and flowers were seen as plain as at noonday where an instant before all was black darkness!

Preparing Hives for Swarms—Fixing Foundation.—We last week recommended the use of 'starters' of foundation in frames when preparing hives for swarms, and it is the safest and best general advice to give, seeing that among our thousands of readers a considerable majority are too inexperienced, or too busy with more important matters, to carry out their bee-keeping so thoroughly as they might otherwise do. Advising the use of starters is always *safe*, 'full sheets' are not, in witness whereof we call to mind reports of 'break-downs' too numerous for us to forget them; but, as we are reminded by a friendly critic, 'full sheets wired in the frames possess advantages for swarms not to be overlooked.' We do not overlook these advantages; far from it. But we see nothing but disadvantage in recommending the use of full sheets of foundation to the majority referred to above. A case in point is mentioned on another page in this present issue. If full sheets are used, the foundation must be either carefully 'wired' or used alternately with frames of ready-built combs; then, with a little attention to ventilation, all will go well, but not otherwise.

A New 'Embedder.'—*Apropos* of wiring foundation, we have just had brought before us a handy and workmanlike tool for embedding the wire in foundation just being introduced by Messrs. Abbott Bros. as an improvement on the ordinary spur or wheel embedder, used for the same purpose. The new implement is about eight inches long, has a handle of wood and a shaft of thick steel wire, with a bulb of copper fixed about three-quarters of an inch from the tapering point of the shaft. This bulb retains the heat for some time, and the grooved point of the shaft reaches into corners quite easily. It is a great improvement over the old form. After trial we like its working very well, and think that dealers will be very likely to 'stock' the implement when they see it in operation.

Inserting Foundation in Top Bars.—For inserting sheets of foundation in split top bars, no method is more easy or simple than driving a couple of stout *oval wire* nails into the bench three-eighths of an inch apart, thus: and leaving the nail heads standing up above the bench the same distance. When inserting the foundation, the frame is laid, bottom bar upward, with the nail-heads through the saw-cut of top bar; then, by turning the frame half round, the nails force open the saw-cut so: and allow the sheet to be easily inserted. On returning the frame to its first position, the

foundation is firmly gripped, and a nail driven through the side of top bar in its centre makes all quite secure. The dotted lines indicate the width of the saw-cut.

QUERIES AND REPLIES.—As tending to give prominence to a recent communication on this subject, it is referred to here as a matter on which we may very appropriately offer a 'useful hint.' Our correspondent writes:—'If not too presumptuous, will you allow me to send a reply to Query 548 in last week's *Journal?*' &c. And he then goes on to say:—

'In order to make the most of his thirteen stocks, I should advise "T. G." (548) to proceed as follows:—First select the six strongest and the six weakest hives, and treat them in pairs (one strong and one weak). From the weak hive take a frame of young brood, first shaking off the bees, and put it near the middle of the strong hive. In its stead put a sheet of foundation in the weak hive, and repeat the operation every five or six days.

'The effect will be that the strong hive will be greatly strengthened and will be ready for the clover, which I do not think it would otherwise be; the weak hive will also get gradually stronger from brood hatching out of the remaining combs. The queen in the weak hive will be able to lay freely; there will be no danger, on the one hand, of chilled brood on a sudden change of weather, nor, on the other hand, of the queen swarming out if confined to the few combs covered by the bees. The bees also will not be overworked by nursing more brood than they are fit for. When the strong hive is working in the super, and the honey-flow begins, then take away all their combs but three, fill up with foundation, and replace the super, thus making a swarm of the whole population of the hive, and they will work away with a will, and will not swarm. Take care to destroy all queen-cells, and also take care to put excluder zinc below the super. Now give the combs taken from the strong hive to the weak one, alternating them with the other combs, and the weak hive will very soon be ready for supering. At first give the weak hive plenty of wraps, and as the weather will be warm, the few bees in the weak hive will be able to keep things going, being reinforced daily by the hatching brood.

'I have found this plan work well, and have great confidence in it, and "T. G." can compare results with the odd hive.—T. F. L., *Brondesbury.*

On the broad principle involved, it will be obvious that we cannot depart from our established rule of offering none but official replies to all queries sent to us; in other words, the *Bee Journal* becomes responsible for all answers appearing in that particular column, and hopes to be valued by its readers according to the soundness or otherwise of the replies therein. We make no claim to infallibility, but we do ask those who, like our esteemed correspondent, may hold views differing from ours, to bear in mind that we not seldom are cognisant of circumstances which have a not inconsiderable bearing on the nature of our reply; and it is no small testimony to the generally satisfactory way in which this department of the *B. J.* is conducted, that adverse criticisms are so extremely rare. Having said this much, we need not go further beyond observing that it is perfectly open for our querist, 'T. G.' (548, p. 206), to follow the advice tendered (with the best of motives we are sure) by 'T. F. L.' if he prefers to do so. All we ask is, that he will bear in mind that the reply on p. 207 was well thought out, and that we still adhere to what is there recommended as the best course to pursue under all the circumstances of the case.

APPLIANCE DEALERS AND THEIR CUSTOMERS.—It would appear that, as regularly as the current season is sufficiently favourable to thoroughly re-awaken the interest of bee-keepers in bees and their belongings, so regularly comes the complaint of grievances, misdoings, or misunderstandings between dealers in bee-goods and their customers. This time a well-known manufacturer, whose promptitude in filling orders we have occasion to think is not often at fault, writes under date of the 26th inst.:—

'Cannot you put a word or two in next week's *Journal* counselling people who have deferred ordering till now to have a little patience with those who are working night and day—at least, from 6 a.m. to 10 p.m.—in the endeavour to oblige them? I enclose you a sample of the kind of letter people insult you with when you delay even for two days. These goods were sent off two days after cash was received.'

The letter referred to was certainly unwarrantably offensive, and couched in language much more forcible than polite; but it is the old story; spite of all we can say, somehow bee-keepers, as a rule, *won't* order till they want the goods, and all we can do is to counsel a little mutual consideration on the part of customers and dealers, to express a hope that the former will gain wisdom by experience, and take it from us that 'Mr. Useful Hints' has years ago gone through all the worry of waiting for bee-goods urgently wanted, but not ordered in time, and has now learned that it is wise to take time by the forelock in

these matters. In any case, don't quite go the length complained of by the dealer above referred to, who says, in a postscript, 'Some people neglect to put name or address on letters and post-cards, and then abuse you for not replying to them!'

BRITISH BEE-KEEPERS' ASSOCIATION

CONVERSAZIONE.

(*Continued from page* 203.)

Mr. Hooker exhibited a new queen-excluder made by Mr. Harvey, of Lewisham, the special feature of which consisted in its being bound or bordered on all sides with thin zinc, thus avoiding jagged edges, and stiffening the sheet considerably, besides preventing it from bending

Mr. Grimshaw said he had recently been asked whether he liked an excluder to be of the same size as the top of the hive, and was at the same time shown an excluder as used by his questioner. He (Mr. Grimshaw) was astounded to find that his interrogator's excluder was simply a plain sheet without any binding of wood, thus allowing the bees only a very few openings to pass through, instead of giving a bee-space on each side which would permit of their making use of every hole in the excluder. He hoped all present saw the importance of such an arrangement.

Mr. Carr differed entirely from Mr. Grimshaw's view. He was a strong advocate for the use of the bare excluder zinc with no bee-space. Years ago he had discussed that matter with the late Wm. Raitt, well known in the bee-keeping world, who had finally become a convert to his (Mr. Carr's) plan of setting on the plain sheet of excluder zinc directly on to the top bars. He thought the bee should have a clear continuous passage up the side of the top bar and through the perforation of the zinc, instead of having to reach up and hoist itself through by a species of gymnastic performance, as it had when a bee-space was left between the top bar and the zinc. What was wanted was a clear passage up—a continuous walk without any stop at all. He admired Mr. Harvey's new excluder, and would certainly try it.

A gentleman asked whether the bees would not make comb immediately underneath the excluder if permitted the space recommended by Mr. Grimshaw?

Mr. Hooker thought that if the zinc provided as much space as there was in the entrance, that was sufficient; and by the bee-space plan there was an unnecessary void to keep warm, and not a continuous walking-way into the supers.

Mr. Grimshaw considered it necessary to give more means of access to supers than the entrance afforded. By allowing the bee-space under the excluder, and leaving it on, it was possible, if one felt inclined, to leave the brood nest perfectly undisturbed. At the close of the season put quilts on, and there remained a warm passage above the frames all through winter.

Mr. Carr would be sorry to let it go forth that it was advisable to do this, and that there was no need to examine hives in autumn in order to see that the combs and queen were all right.

Mr. Grimshaw replied that he did not recommend such treatment. He only observed that it could be done.

Apropos of what had fallen from Mr. Grimshaw with reference to leaving on excluders all winter, Mr. Hooker said that two or three years ago he had a hive of bees in the country some considerable distance from his home. He left them with a queen-excluder and super on, the latter containing honey, as he knew he would be unable to feed them. In the winter the bees were forgotten, and as the spring advanced he paid a visit to the hive, and found them lively and working in the super, which had been on all the winter. The result was, that on the 14th of June he was able to remove the super with seventy-five pounds of honey, which he exhibited at the Windsor Show. That must, however, be regarded as a fortunate accident.

Mr. Carr, in testing different methods of wintering bees, had left supers on hives in the way described by Mr. Hooker, and with success; but, of course, no one would advocate the adoption of such a plan for general use.

A prominent bee-keeper of Tunbridge Wells advocated an excluder of only an inch in width and eight inches in length, running across the tops of the frames. That gentleman considered it of the greatest importance to have the centre of the brood nest covered with a solid board, believing that such an excluder gave bees plenty of access to the supers. The same gentleman had made a calculation, by which he attempted to prove that there were abundance of entrances into the surplus chamber in those narrow strips of excluder zinc.

Mr. Grimshaw was of a contrary opinion. According to his view, too much freedom could not be given to the bees on entering from the top of the brood frames to the surplus chamber. The best authorities held that entrances could not be made large enough during the honey-glut—in fact, it was a common thing at that period to wedge up the entrance all round, so as to allow of an extra large passage in and out. By the same argument, there could not be too much space above the brood frames.

The discussion was continued by several gentlemen, the Chairman stating that in the north of England he had seen hives with only an inch hole in the centre, and four small holes in the four corners.

Mr. Grimshaw admitted that straw hives only had a one-inch entrance, but surely such spaces were not sufficient, else why not recommend them for universal adoption?

Mr. Carr said that, in considering the amount of entrance-room to supers which bees should have, he would argue that 'enough was as good as a feast,' and more than 'enough' was not

needed. Mr. Grimshaw appeared to ignore the fact that the bees had to come up through the spaces between the frames. So long as they had to do this it appeared to him that access to the upper chamber was not diminished while there was an entrance every quarter of an inch along the entire length of the passage-ways.

A gentleman pointed out that the more the supers were exposed to the brood nest, the better chance there was of keeping them warm. With a very small entrance the heat would not arise.

Another speaker stated that he had tried the plan of giving a bee-space underneath the excluder, and on each occasion the bees had built brace combs there.

The debate shortly afterwards concluded with a vote of thanks to the Chairman, moved by Mr. Hooker, and seconded by Mr. Carr.

Committee Meeting.

Committee meeting held at 105 Jermyn Street on Wednesday, May 18th. Present: Hon. and Rev. Henry Bligh (in the chair), Rev. Dr. Bartrum, Rev. R. Errington, W. B. Carr, W. Lees McClure, Major Fair, Major-General Battersby, W. H. Harris, H. Jonas, W. O'B. Glennie (treasurer), and the following *ex-officio* members, viz., J. M. Hooker, R. A. Grimshaw, Rev. W. E. Burkitt, and F. H. Meggy.

The Committee had under consideration the arrangements in connexion with forthcoming exhibitions.

Mr. Carr submitted 'proofs' of several subjects for lantern slides prepared by Messrs. Newton & Co., which were approved.

INTERNATIONAL FRUIT EXHIBITION.

Postponement till 1893.

A meeting was held at the Guildhall, City, on Monday, May 23rd, of the Provisional Committee of the proposed International Fruit Show in London. After some discussion, it was resolved that, in view of the concentration of public interest in the coming General Election, and the consequent difficulty of making adequate arrangements for holding the exhibition this year, and also in consideration of the representations made by intending exhibitors that sufficient notice had not been given for preparations, the exhibition should be held in the autumn of 1893, and not this year.

KENT BEE-KEEPERS' ASSOCIATION.

Bee Lectures.

A course of five lectures on bee-keeping was commenced in the Assembly Rooms, Ashford, on Monday evening, May 16th, under the auspices of the Technical Instruction Committee of the Local Board. The lecturer chosen was Mr. J. Garratt, secretary to the Kent Bee-keepers' Association, and a better exponent of the industry it would have been hard to find. The chair was occupied by T. Nottidge, Esq., J.P., who, in opening the proceedings, said that besides being interesting as giving a means to study the habits and ways of bees, bee-keeping was also a source of considerable profit. One of the chief reasons that bees were not more generally kept was that people were in fear of being stung. He then introduced Mr. Garratt, who delivered an able lecture, touching on the natural history and physiology of bees. At the conclusion the lecturer was thanked by the chairman for his address, which had been illustrated with diagrams, &c. On the following evening, previous to the lecture, Mr. Garratt gave a demonstration on 'swarming' bees, in a field close to the Lion Brewery. Three colonies of bees were experimented with, and the proceedings were watched with interest by a very plucky audience. Each evening the lectures have been continued with increasing interest.

AN EXPLANATION.

The manufacturer of the article referred to below writes us as follows:—

'With regard to the new excluder-section exhibited by Mr. Carr at the *conversazione* of the B.B.K.A., and adversely criticised by some of the gentlemen present, it should, in fairness, be stated that this sample section was sent with the express remark that "it was not perfect, having been made by hand," the machinery for making not then being complete. It was sent to convey some idea of the arrangement; the gentlemen present were probably not aware of it being an unfair sample.'

We gladly insert the above explanation, but must explain that it was expressly stated at the meeting that the section exhibited was not a perfect sample.

BERKS BEE-KEEPERS' ASSOCIATION—WINDSOR BRANCH.

The Executive of this enterprising Branch of the Berks B.K.A. are again actively engaged in arousing and stimulating public interest in bee-keeping according to modern methods. In addition to arranging for a personal visit to all bee-keepers, or those likely to become such, during the expert's tour of the district, lectures have been delivered under the auspices of the Association in connexion with the technical education scheme of the Berks County Council. The first lecture was given on April 5th, at the Albert Institute, Windsor. Mr. Alderman J. Dewe, a member of the Berks County Council, presided, and quite a large audience was present. The subject of Professor Cheshire's lecture was 'Bees as Florists, Hybridisers, and Fruit-producers,' and was illustrated with diagrams and by experiments. After detailing, in very interesting fashion, the various labours of the bee

connected with the domestic economy of the hive, and many remarkable characteristics of the bee itself, the lecturer gave a full and graphic account of the marvellous way in which the little insect bestowed benefits unnumerable on mankind at large. He concluded by expressing a hope that his audience would see that the bee is an integral part of the great and wonderful plan of nature. Flowers and insects were directly necessary to each other; the insects would have no food without the flowers, and the flowers would not be complete without the insects, for they would not give their seed, and so live through their progeny.

The lecture was listened to with close attention, and at its close the Chairman thanked Mr. Cheshire, in the name of the audience, for his interesting lecture.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL BROOD AND EXPERTS' VISITS.

[1033.] What precautions do you recommend an expert to take, who is visiting the bee-keepers in a district, to prevent his spreading foul brood, in case he should be unfortunate enough to come across it during a day's visits? If he wears a blouse, carried about in a bag with a good supply of naphthaline kept in it, and washes his hands with carbolic soap containing twenty per cent. of pure carbolic acid, after manipulating a foul-broody stock, do you consider this would be sufficient precaution to take to warrant his continuing his visits, or should he, in your opinion, cease work for the day?

Do you consider that the vapour of naphthaline that a blouse or coat would have, kept for some time in its fumes, is sufficient to sterilise the spores of the foul-brood bacillus? and would not the hands of the expert, though well washed with the carbolic soap, be quite sufficient to contaminate the next stock of bees examined, even though the hands were left wet with the soap and water? Do you not think, considering the importance of this question of spread of foul brood by Association Experts, it would be advisable for the B. B. K. A. to draw up and publish in the *B. B. J.* the necessary precautions to take whilst experts are out on their rounds to prevent the spread of this dread disease?

There are, I believe, many bee-keepers in the country who are in the habit of looking after their richer neighbours' bees for a small remuneration; to these some instructions are very necessary—in fact, in my opinion, all experts require guidance on this difficult question. If an expert has been sent, at considerable expense, to a distant part of the country, and the first hive he opens happens to be a foul-broody one, and he has to stop work for the day, it is a very serious business. My own opinion is that this visiting of members by an expert is a mistake, and one that has been a source of great danger and mischief in the past, and the sooner Associations make it understood that a free visit from the expert is not one of the advantages of membership the better. There are plenty of other advantages to be got by being a member of an Association, without this one of having foul brood brought into your apiary. The following, I think, would be quite sufficient to keep members, and induce others to join:—

1st. The *Record* to be sent to every member of the Association free.

2nd. Every District Hon. Secretary should have the expert or teacher of his Association at his disposal, to meet the members of his district at least once, if not twice, in the season, when he could help and advise the members at the meeting.

3rd. Local honey shows to be encouraged in the different districts, and assisted in every way possible.

I think these three advantages are quite as much as they can expect for the small amount of their subscriptions. The cost of visiting every member in a county is considerable, and I feel sure that, if it was understood from the beginning that a personal visit from the expert was not to be had unless especially paid for, or in a case of suspected foul brood, it would not be expected.

I should be much obliged for your opinion on the above, and if you think it worthy of discussion in your columns, kindly publish this letter in them.—T. D. SCHOFIELD, *Alderley Edge, May 24th.*

[We have reason to know that the subject referred to is receiving earnest attention from the Committee of the B.B.K.A., but it is a difficult matter to deal with, and the consideration of what is best to be done will no doubt take some time.—EDS.]

NOTES BY THE WAY.

[1034.] The weather about here during the past ten days has not been good for bees. Last week we had a recurrence of March gales two or three days in succession, and the loss of bee-life must have been excessive, strong stocks showing unmistakable evidence of diminished numbers afterwards. No doubt the destruction was principally confined to aged bees, but this

check has retarded my stocks quite ten days; several that showed every indication of swarming the week before last have not, from outside appearances, seemed to make any progress. But even from that standpoint we may, perhaps, find a crumb of comfort, seeing that, when our swarms do come off, they will be composed of young, vigorous bees, ready to take a sustained period of work; as an old observant bee-keeper, verging on eighty, said to me the other evening, he had 'always noticed since he had kept bees—some sixty years—that early swarms never did so well as swarms that came off about the first week in June.'

The elements are too big for puny man to fight; our care, consequently, for the bees in early spring, fostered by continuous help and forethought, working with a will to be in the front rank in the coming campaign, may all be frustrated in a few hours by some unexpected atmospheric disturbance. We, with our smaller worries, must feel thankful that our lot was not cast in the Mauritius last week; otherwise, neither bees nor bee-master might have escaped to tell the tale of the storm.

Referring to 1028, p. 204 in last week's *B. J.*, some week or ten days ago I heard from the expert of the Oxfordshire B.K.A. of a case of cure of foul brood by the naphthol treatment; perhaps if this should meet his eye, he will give us an account of the case for the benefit of our brethren in the craft who are troubled with the pest.

Some of your readers seem to have a rather hazy view of *meum* and *tuum* as related to ownership in bees. I admit that bees require constant watching during swarming-time, otherwise swarms may issue and cluster, and if not hived in a reasonable time, take wing and decamp to the nearest decoy hive in the next garden. This would be the neighbour's gain, but the rightful owner of the swarm would be none the less a loser; his crate of sections may remain unfinished for that season, and his bees be voted lazy. But the neighbour would have become unrightfully possessed of some 12*s.* to 15*s.* worth of the property of the former, to which he had neither moral nor legal right, surreptitiously obtained by using a decoy hive. Would the writer of 1029 feel friendly towards the owner of a decoy hive placed in a garden near, if one of his seven swarms went straight off into it? Your correspondent 'J. T.' is just one of those who ought to try the self-hiving device, where the owner of an apiary is away all day, and the bees are left to take care of themselves. A self-hiver would be the very thing for him, and far preferable to the decoy hive. The argument that the complaining bee-keeper can put out a decoy hive, too, will not hold good.

'Two blacks will not make a white,' and therefore I say that bee-keepers should put the foot down on the nefarious practice of using decoy hives, and nip the practice in the bud.

Some urgently needed rain has fallen, and our prospects are hopeful once more; sainfoin just coming into bloom, fields yellow with trefoil, and white clover showing bud, and even a few early flowers. Near to my Stanmore apiary there is a field of trifolium red with blossom, and sections placed on the hives May 25th were full of bees on the 28th, so that, with good bee-weather for a week or two, I am hoping to secure some early honey. The sycamore-trees have bloomed profusely this year, and the thorn is white with May-blossom, and visited by many bees.—W. Woodley, *World's End, Newbury.*

LENDING EXTRACTORS.

[1035.] If 'Inquirer, Launceston' (538), will communicate with the undersigned, arrangements may be made for the loan of an extractor.

Referring to Mr. Grimshaw's 'Lecture Notes' (1022, p. 195), perhaps he would kindly favour us with the heads of the subjects of his lectures. They may be useful to others who desire to disseminate the knowledge of the science.—John Brown, *Polyphant, Launceston.*

Queries and Replies.

[553.] *Bees killing Drones in Spring.*—I am quite a beginner, and am trying to learn all I can about bee-keeping, as I live in the Hospice here, which is very poor, and I think bee-keeping might be made to bring them in something worth having. I would be much obliged if you would examine the little box I send you by this post, and give me a reply to the following:—1. Do you not consider our drones very large? 2. Is not the drone wrapped separately in a piece of paper a drone which had been coupled with a queen? I found it close to the hives on the board, near one of the strongest skeps. 3. What is the substance wrapped in the other paper? There was about double that quantity carried out by the bees from a very strong hive on the 12th. 4. Why do the bees kill their drones in spring? I have tried to find the reason in all the works on bees I have (and I have a good many), and though I find full explanation as to why the workers massacre the drones when the season is over, I find none why they do so in spring. Drones were flying on the 4th, but they were all killed. Drones were flying yesterday (21st) again. A great many were killed, and actually I found several the workers had killed by leaving their stings in most curious parts of the body.

The hives are so full of bees they do not manage to pack themselves in till I am obliged to retire to my rooms (8.30), although I have tipped the hives up so as to allow them to go in and out almost all the way round. At five a.m. they are stowed away in the hive, but now begin to fly by five. I have thought that the workers kill the drones as there is no room for them. The people here have been prophesying swarms daily for a month (my hives being so

full), but no one has heard of one as yet. The weather has been most unfavourable; to-day seems to have settled for fine weather, so perhaps they will soon swarm. I have ten 'Layens'' hives waiting for tenants. 5. Is there any good reason why straw skeps should not be hung up on hooks to the boards or ceiling of the bee-shed (say two inches from the shelves)? I think it would prevent all sorts of insects nestling round the bottom, laying their eggs, &c., also ants. We have stopped perfect swarms of ants by upsetting a pot holding about six pounds of coffee-grounds in a lump on their walk to and from the bee-shed. 6. Would you also kindly say if, after the wax in the combs has been melted by exposure to the sun in the 'solar extractor' (the combs remaining quite strong, and intact, and clean), whether these may be used again to fix inside the frames. M. de Layens have proved very little is gained by giving combs to the bees; but, perhaps when the combs have no wax left in them, the bees, who cannot help secreting the wax, would use their wax to these strong transparent combs and save us the expense of comb foundation. Some of the combs quite melt away, but a good many remain quite perfect; but having had the wax extracted by the reflector, are quite light though very solid, and I should like to know if they would not be very desirable, as having been exposed to the heat of the sun, the combs might be proof against the bee-moth and foul brood. I hope my questions are not displaying too great an amount of stupid ignorance, and that it will not trouble you to reply.—'Gisors,' *Gisors (Eure), France, May 22nd.*

Reply.—1. No; the drones sent are quite normal as to size. 2. Yes. 3. Hard pollen thrown out by the bees because of its being useless to them in that state. 4. It is not natural for drones to be killed in spring; that is the time when they are reared in prospering hives, and only on rare occasions, when food is running short, do the bees molest them. 5. Skeps cannot be better stowed away till wanted than as you suggest, and if brushed out before using to remove cobwebs, &c., no more is required. 6. The form or shape of the cells remaining after combs have had their wax extracted, as described, is simply the skins or cocoons of the successive generations of larvæ hatched in them, and consequently, such remains of the combs are not fit for giving back to the bees.

[554.] *Queen Killed and Cast Out.*—As a sequel to the letter I wrote you yesterday about a hybrid queen being turned out dead from a strong stock, I opened the hive to-day, and found plenty of sealed brood, but no eggs or young brood, and three queen-cells, out of which the queen had emerged, which must have been built during the last month. I could not find any queen—virgin or otherwise. Kindly answer the following queries: 1. If there are empty queen-cells, why is there no queen? 2. If there is a queen which I have not been able to find, why are there no eggs? 3. What would you do under the circumstances; would it be wise to introduce another fertile queen? 4. What was the probable cause of the queen's death?—T. O. B., *Wellington, Somerset, May 26th.*

Reply.—1. Most likely there is a queen, but you have been unable to find her. 2. Because the queen, if present, has not yet begun breeding. 3. Leave the matter over for a few days, then look again for eggs. 4. If the stock is really queenless (which we doubt), a fertile queen may be introduced.

[555.] *Bees Dwindling.*—I was asked to examine a hive to see in what condition the bees were. I expected to have found a very strong lot, but was greatly surprised to find almost an empty hive and not more than three dozen worker-bees in it. I thought there was no queen, but on looking over the frames found about four pounds of sealed stores, a little not sealed, and a small bit of brood with about twenty sealed and unsealed cells. The queen appeared all right. Can you tell me why the bees have dwindled away? There was no dead ones in the hive. I bought this same hive at a sale in November last for the present owner, and had not seen it since purchasing until now. The crate was taken off and the hive made secure the end of last season—it was then full of bees, had done well and not swarmed. It was moved about one mile and a half after the sale. Kindly tell me if you think the bees are worth keeping, or suggest any special treatment to increase the stock. I covered them up warm and put a small bottle of syrup over the bit of brood. I have five hives myself, all doing well. —A Two Years' Bee-keeper and Reader of *B. B. J.*

Reply.—Beyond supposing it possible that breeding ceased so early last year that none but old and worked-out bees were left to winter in it, we cannot account for the present depletion of the hive. 'Three dozen bees' are certainly not 'worth keeping.'

Echoes from the Hives.

Stamford, May 26th.—This has been the worst spring for bees in our district I ever remember. There was only one night without frost from January to middle of May, and only one day when bees could fly freely for any length of time. The loss of queens has been greater than usual; only yesterday—May 27th—when going to super a stock, I found the queen gone; no eggs or unsealed brood, except a few cells of drone brood, and the hive has not been touched for a long time. To show the peculiarity of the season, on May 23rd there were willows in full bloom, May-blossom and white clover just coming into blossom. No honey about here as yet. The bees yesterday tried to steal as soon as a hive was opened.—Alpha.

Loughton, Essex, May 21st.—I am able to give a good report of my bees this year. I have three lots, which wintered splendidly and are now doing very well, all being packed with bees, nine frames in each hive; one of them I supered last week, the other two I super to-day. One of my lots is very vicious; I cannot look into the hive or do anything with them without at least thirty or forty bees attacking me most furiously, and the use of carbolic seems to make them worse; but the other two hives I can do almost anything with. The vicious lot seems to me to be a little smaller and blacker, with more distinct rings round body than the others. I should be glad if you would advise me what to do to make them less spiteful.—H. A. F.

[Persistently vicious stocks should have their queens removed the first convenient chance as soon as the honey season is nearly over.—EDS.]

Honey Cott, Weston, Leamington, May 28th, 1892.—We have had very nice weather here of late for the bees, and they appear to be taking every advantage of it by the look of them when at work and their booming hum at night. There are some large hawthorn-trees in full bloom, and the clover-fields are full of trefoil and other flowers. We have had a splendid rain, which has made the beans grow very much. A week ago they looked as though they would not be likely to be in flower for three weeks; now they appear to have grown a foot in about three or four days, and are showing the little knots previous to flowering, I noticed the bees searching amongst them. Last Sunday evening I hived the first swarm I have heard of in this part, and that was three or four miles away. The gentleman to whom they belonged had gone down the garden in the evening, and saw them clustered on a stump, and as he had no skep to put them in he came over to me for one, and to ask me to hive them; the hive from which they had swarmed was a bar-frame one, and had been supered. I have been very busy putting on sections and extracting crates since 20th inst. I see the bees are well up in some of them, and promise, if weather is all right, to give a good account of themselves. The weather prophets do not encourage us, but we must hope for the best. 84° in shade to-day.—JOHN WALTON.

Bee Shows to Come.

June 1st to 6th.—Bath and West of England Show at Swansea. Bee Tent only.

June 9th and 10th. — Suffolk Agricultural Society at Bury St. Edmunds. C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 14th and 15th.—Essex B.K.A., in connexion with the Essex Agricultural Society, at Harlow, Essex. F. H. Meggy, Hon. Sec. E.B.K.A., Chelmsford.

June 20th to 24th. — Royal Agricultural Society at Warwick. Entries closed. Apply J. Huckle, Kings Langley, Herts.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

A BRITISH BEE-KEEPER.—The British Bee-keepers' Association will, we trust, continue to treat the silly and altogether groundless attacks of the 'Bee-keeper' referred to with the silent contempt they deserve, just as we do anything and everything emanating from the same quarter.

M. V. (Co. Tyrone).—Before we can help you, some particulars must be sent of your recent operation with the stock from which the piece of comb was taken. Something very unusual has caused the brood to perish, and there is no foul brood in the sample sent. Kindly, therefore, send us some details of how the stock has been dealt with, and we will be better able to diagnose the case.

H. GRIEVE (Hawick). — We shall be very pleased to describe your 'swarm-hiver,' but would much prefer to see one (or a model) before expressing any opinion on its merits.

J. H. WOOTTON.—The bees sent are wild bees, belonging to the genus *Andrena*. They are usually plentiful in spring, and build their nests in banks of earth and such-like places.

H. A. FERRY.—The insect sent is simply a fly, of the order *Diptera*.

PERCY LEIGH (Stoke Prior).—What is known as the simple cone clearer may be had from any dealer in bee-appliances for a few coppers. It was illustrated and described in the *Bee Journal* for August 20th, 1890.

J. MOSSOP, DERFLA, and WELFORD (Whitby). —The insects sent by each of our above-named correspondents are synonymous. They are not honey-gatherers at all, and belong to the genus *Trichiosoma Lucomium*.

D. H. DURRANT (Acton).—In the casting out of drones there is no cause for alarm. Bees do these things from so many different causes that it becomes difficult to hit the right one in stocks not under our personal observation.

*** *Several queries, echoes, and other interesting items are in type, but unavoidably held over till next week.*

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

FREE EDUCATION IN BEE-KEEPING.

Under the technical education scheme of the West Riding County Council, a first course of six class lectures was concluded by Mr. Grimshaw, the hon. secretary of the Yorkshire Bee-keepers' Association, on Saturday afternoon, May 28th, in the garden of Mr. Dixon, Beckett Street, Leeds. As the whole ground of the subject of modern bee-keeping had been covered in the previous classes, the lecturer devoted his remarks to a summary of the facts previously enunciated. Mr. Grimshaw detailed the life-history of the honey-bee, from the thread-like egg, one-fourteenth of an inch long, to the mature insect; the various transformations through which the young bee passes, the causes of the various sexes and their duties to the commonwealth, the differences existing between the queen, drone, and worker; how the queen and the supposed-to-be-useless drone are the only perfect insects in the hive, perfect inasmuch as they alone are capable of reproducing their species, yet even these were unable to gather honey and pollen from flowers—honey as a heat-producing food, and pollen as a flesh and muscle former; the imperfect female, the worker, whose food in the early stages of babyhood had been restricted by a process of weaning, and whose restricted cradle-room had prevented the ovaries from being fully developed. These matters were fully gone into, as were the stages of the newly hatched young worker, first as a nurse to the young brood, secreting a pap-like food (very similar in its chemical composition to that afforded by the mammalia to their offspring), with which it supplied the egg in its early stage, afterwards joining in the throng of busy workers. The appliances on the legs of the workers for combing the pollen from the body feathers, the re-combing this by a coarser set of combs into the pollen basket, were also detailed at length. The lecturer then reviewed the whole course of bee-keeping, advocating the use of thick-walled, warm hives, with frames parallel to the entrance, the hive to be placed in a spot sheltered from the winds blowing from westerly to northerly quarters—that was, in situations west of a line drawn in a south to north direction in England. It was shown how hives having a south-east aspect would get the early gleams of spring and autumn sunshine, and bring out bees to work earlier than those in hives having other outlooks. A complete collection of all appliances necessary in a large apiary was explained to the audience, and, at the conclusion, a vote of thanks to the lecturer and to Mr. Dixon was passed.

LEICESTER B.K.A. AND COUNTY COUNCIL GRANTS.

We learn that the following letter has been received by the Hon. Sec. of the above Association:—

'The Technical Education Office of the
Leicestershire County Council,
13 New Street, Leicester,
May 30th, 1892.

'Sir,—On the 28th instant the Technical Education Committee of the Leicestershire County Council decided to make a grant of 50*l.* to your Association upon the following conditions:—

'1. That the Council shall be represented upon the Executive Committee of the Association by the following persons: C. J. Bowles, Esq., of Leicester; B. Hurst, Esq., of Burbage; J. Jackson, Esq., of Somerby; and the Organizing Secretary.

'2. An audited statement of accounts, together with a report relating to the expenditure of the grant, shall be presented to the Committee of the Council when required.

'I am, Sir, your obedient servant,
'A. J. Baker,
'Organizing Secretary.

'H. M. Riley, Esq.,
Secretary to the L.B.K.A.

ESSEX BEE-KEEPERS' ASSOCIATION.

County Show at Harlow.

We are requested to draw attention to the addition of a new class to the prize schedule of the above show, which takes place on June 14th and 15th, viz., for new inventions, for which first and second prizes are offered, no

entrance fee being charged for exhibits in this class. Late entries are also taken without extra fee. Those who desire an opportunity for bringing new appliances or novelties in bee-goods before bee-keepers, should avail themselves of the excellent opportunity thus offered for staging their inventions early in the season. With fifteen classes for honey alone, and liberal prizes in each, a good exhibition should be ensured.

NORTHAMPTONSHIRE B.K.A.

This Association is steadily carrying out its programme of lectures, and will very shortly be in a position to give a good account of its expenditure of the County Council grant. The veteran expert, J. R. Truss, has been 'holding forth' at Easton, Nassington, Wellingborough, Thrapstone, and Oundle; Mr. T. E. Adams has been delighting and instructing good audiences at Marston, St. Lawrence, Helmdon, Byfield, and Culworth; and Mr. Edwin Ball has supplemented his indoor lectures already reported, by an outdoor practical demonstration on June 4th at Earl's Barton in the Rev. R. R. Cobbold's garden. The lecturer drove a skep, pointing out, during the operation, the proper method of performing it, and enumerating the various uses to which it could be made subservient. He then opened a bar-frame hive, examined each frame, and added three more, as the bees were short of room. He then returned the driven bees to their skep, and explained fully the three ways most commonly resorted to of putting bees into frame hives. After the demonstration he visited the apiary of Mr. Sheffield, where he found two stocks of bees, each occupying eighteen frames, and showing unmistakable evidence of want of supers.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

LECTURE NOTES.

[1036.] In the *Bee Journal* for May 26th, p. 203, allusion is made (1025) to Mr. Grimshaw's suggestion respecting the mode of giving technical instruction, and I have much pleasure in contributing my ideas thereon. After the experience of teaching at three centres, each occupying five evenings, I have arrived at the conclusion that lectures and practical demonstrations should alternate; thus, the first evening should be occupied by the introduction of the subject—*i.e.*, the general position and the action of the local society and the County Council, much being made of the recognition now accorded to bee-keeping as a practical pursuit; the nature of the industry and its capabilities, success of individual bee-keepers and the secret thereof, moral benefits of intelligent effort, suitability of the locality, standard to which bee-keepers should aspire, increase of wealth to the nation by means of minor products, fertilisation of flowers and fruit blossoms. Requirements for success: Personal, men and women, opportunity and temperament. The study of physiology, anatomy, and natural history absolutely necessary for complete success. This fills up an hour very easily. Questions and criticism should be invited.

The second evening, say at 6.30, or such time as may be most suitable, bee-driving from a skep should be performed, attention being directed to the means used to quiet the bees and to the acts and demeanour of the bees when under control, the composition of a swarm, and the circumstances described under which artificial swarming is justifiable; the swarm introduced to a bar-frame hive fitted with foundation, and the skep returned to its stand.

The third evening is well employed in describing the products of bees and their uses, the development of a colony starting from January or February, its progress through the spring months, raising of drones and young queens, and swarming; vicissitudes—*i.e.*, queenlessness, drone-laying queens, exhausted queens, and the action of bees when starvation threatens; throwing out larva. This to be followed by systems of management, first of the straw skep and then of the bar-frame hive, embracing the size of the latter, the standard frame, comb foundation, the covering to be used, supering, and removing supers, doubling and extracting; adding the various objects of management, first for honey, secondly for swarms, thirdly for queen rearing.

The fourth evening to be occupied by examining the bar-frame hive into which the swarm was introduced on the second evening, which always attracts great interest and excites much wonder, and an examination of the skep from which the swarm was driven, with the object of finding the commencement of queen-cells. Besides these, time will be found to examine other hives, and the features of management, good or bad, pointed out. An ample opportunity has been afforded me this evening, which I may describe. One of two bar-frame hive (*home-made*) was brought into the arena. The bees were in full force, requiring a rather decided use of the smoker. Upon lifting (rather tearing off), the two pieces of hemp carpet, a condition of things was

brought to view which was almost appalling. Combs of all shapes and sizes, some one inch, some two, and some nearly three inches thick, the frames themselves being of a type in use many years ago, tapering towards the bottom. Here was an object lesson and no mistake. After much effort the first frame was lifted out, and I proceeded to slice the honey-comb off down to the frame, and this treatment I applied to all, getting the frames eventually to range side by side in fair order; in several cases I had to cut away the combs from their connexions with the frames, and press and fasten them in position. To give working room as I took each frame out, I shook the bees upon the operating table (it seemed more like surgery than bee-keeping), and let them run into a skep which I afterwards emptied down in front of the hive. This amply filled up the available time, and contained more than enough instruction for an audience new to the subject.

On the fifth and concluding evening the work will commence at 6.30 by again examining the hives already under treatment, viz., the swarm, the skep, the bar-frame hive, doing to the latter what more may be required, possibly transferring the combs to standard frames, and putting them into a new hive. An adjournment will then be made to the lecture-room, and other features of management will be pointed out, such as feeding, fixing foundation in frames and sections, the arrangement of the apiary, kinds of flowers, diseases, &c., amd then the question of continuing the instruction, and organizing a local society, and winding up the course will fitly close the series.

My decided opinion is now not to attempt to drive in more instruction than is required for a simple start, and not to depreciate the use of the skep system in the case of beginners.—Jesse Garratt, *Hon. Sec., Kent B.K.A., Meopham, Kent, June 3rd.*

LECTURE NOTES.

[1037.] In answer to 'E. B.' (1025, p. 203), and Mr. John Brown (1035, p. 214), who ask for the titles of a series of lectures, I would beg those gentlemen to wait a short while, and your readers will doubtless be furnished with a detailed syllabus of subjects for the assistance of lecturers, as suggested by a Sub-Committee of the British Bee-keepers' Association, and on which much time and thought have been spent. This syllabus, as you are aware, was keenly debated upon, and finally the ideas of the Committee were 'boiled down,' so to speak, into a series of headings, which must prove of the greatest service to those who need steering; and to those who think they do not, well, they will be admirable *points d' appui* (supporting props), keeping all those who act in accordance with them on the same lines and in touch. I therefore, though quite willing to answer the inquiries, beg to assume an air of diffidence, and ask your correspondents to 'bide a wee.'

If, however, a short synopsis of what *I have already done* in my first series under the 'Technical Education Scheme' be of any service, I am pleased to subjoin it. Bear in mind the following are class lectures, wherein one talks as if to those who know nothing about bee-keeping, and are anxious to learn, the intention being to convey as much real information, with as little ornamental language, as possible in one hour's talk. To ask your hearers not to hesitate to interrupt if they wish for clearer explanation may seem strange, but I took it as my duty. I also devoted nearly an hour after the class lecture to answering queries on items of either practice or theory.

I. A well-stocked hive described; its contents; the work of the bee amongst flowers, the wages paid to it, the effect of its services on the fruit and seed yield; the uses made of the nectar, of the honey, of the pollen; statistics of imports from abroad and of estimated production of honey in other countries; conclusion, showing the necessity for both a spread of knowledge of correct bee-keeping and of accurate statistics.

II. Bee-keeping as a health-giving hobby: requiring enthusiasm; how to begin, requisites and first outlay; appliances explained, and the procedure of the novice pointed out to him from the purchase of the stock or swarm to the time for honey removal.

III. In open air, with gauze dividing screen. Practical manipulation till queen found; comb, queen, eggs, larvæ, and bees put in unicomb observatory and passed round, while natural history of bees was treated of; then from theory to practice by illustrations of best methods of feeding, natural and artificial swarming, methods of increasing stock and of obtaining surplus: extracting; conclusion.

IV. Varieties of British Honey. The bee and its sting; how to get a quiet strain: manipulation. Beeswax from its secretion in time of quiet and warmth, its exudation, plastic manipulation by the bee, cell formation: statistics of various cells, shapes, measurements, &c., to the reason of all shapes and straight combs, brace combs, various cappings, section, shallow frame, and other super comb; the melting-pot; the rolling-mill; the several kinds of foundation.

V. All about honey; statistics repeated; what nectar is, its properties, conversion into honey, use of honey sac and stomach mouth; cell-filling, ripening, capping, surplus removal, uncapping, extracting, bottling, crystallisation, what its cause, &c. (exemplified by sections, combs, and bottles of various honeys); the medicinal properties of honey, how plant poison is true medicine when diluted as nectar and mixed antidotally by the bee.

VI. Recapitulation and emphasising all the useful known facts, with manipulations and use of all appliances, taking care not to touch upon vexed questions, but to explain methods most successfully practised in the district lectured in. —R. A. H. Grimshaw.

CHILLED BROOD.

[1038.] Many thanks for your kind reply respecting the piece of comb sent. As to the cause of so many of my stocks showing chilled brood, I am at a loss to know why. My bees are worked on the 'let 'em alone' principle, and after making a cursory examination in early spring, by turning back the quilt to see that they have plenty of food, were not opened again till the middle of May. Some that were short of food have been fed regularly from a bottle-feeder with one hole on, but I see no difference between those so fed and those not requiring feeding. All weak stocks were united.

I have pondered the matter a good bit from various aspects, and the only likely solution I can give is this. Last year the honey crop was a great failure in this district, a fairly good flow lasting for scarcely more than a week. The sudden cessation of income put a stop to breeding earlier in the season than usual. I also make it a practice to keep young queens as far as possible. The early stoppage of breeding last year caused many stocks to winter with bees older than they otherwise would have done, and these old bees may have died off this spring more rapidly than young ones have hatched out. Also the young queens, being prolific, and inclined to breed fast, may also have hastened their departure. Then, the quantity of brood coming on would be more than the nurses have been able to cover and attend to after losing the old bees. Last of all the weather, since Good Friday, has been cold. Whether matters are worse where a year-old queen reigns, I am unable at present to say. I shall use naphthaline as advised, and if matters do not mend, will correspond with you again.—H. J. W., *Great Chesterford, Essex, May 27th.*

[The singular part of the case is, that there should be chilled brood in nearly all your stocks, and, excepting that you say nothing as to the warmth of packing used, and the type of hive adopted, we can offer no other solution of the matter beyond what is suggested by yourself.—EDS.]

DECOY HIVES—SELF-HIVING.

[1039.] Reading in the *B. B. J.* of May 26th of 'J. T.' setting up decoy hives for his swarms, I notice he does not say if he has ever realised his expectations.

Now, I must relate what took place in my own apiary on Saturday last. Some time since I bought two hives, which I painted and fitted up with comb foundation, ready for swarms. Taking one indoors, the other I left in the garden about twenty yards from my apiary. For some days past I have noticed bees going in and out of this hive, but took no further notice beyond thinking that perhaps the comb foundation attracted them. On Saturday morning last, however, there seemed many more than usual, and on lifting off the roof I found quite fifty bees, so in this way they kept possession till about mid-day, when all at once the hive was surrounded by a beautiful swarm. I rang my bell as usual, but the swarm seemed bound for this identical hive, and at once commenced alighting on the roof. When I saw they were bent upon taking possession, I merely tilted the roof a little by means of a small stone, when the bees at once commenced crawling in, and in less than an hour they had all drawn in, and so hived themselves.

We have had lovely weather, and the bees seem to be doing well. I had three swarms last week, one on the 24th, and two on the 28th.—J. H. DEAN, *Brookfield Farm, Cheshunt, Herts, June 1st.*

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

[1040.] Can any of your readers inform me when the general yearly meeting of the Shropshire Bee-keepers' Association will be held? Rule IX. states that 'A general meeting shall be held as early as possible in the month of January of each year, at which the report and audited balance-sheet of the Association shall be presented by the Secretary, the officers of the Association shall be then elected, and all questions relating to the government and management of the Association be discussed and voted upon;' but it is a fact that no meeting of any kind whatever, committee or general, has taken place the last ten months. As a member I feel somewhat interested about the financial position of the Society, and I should also like to hear what reply the Secretary received from the County Council with reference to the application made last summer for a grant of money in aid of technical instruction in bee-keeping.

Unless more activity and energy is evinced by the Executive, I fear the Shropshire Association will ere long begin to lose its hold on Shropshire bee-keepers.—INTERESTED, *May 25th*, 1892.

SECTION RACKS WITH HANGING FRAMES.

[1041.] Perhaps I may be allowed to say a word or two concerning Mr. Meadows' new section rack, exhibited at the last *conversazione* of the B.B.K.A. When I first received one of these, early in the season of 1891, I was at once struck by its compactness and special capability of contraction, as, by means of the dummies, which are of most ingenious construction, one or two frames of sections can be placed in *any* position above the frames, while quilts can be inserted beneath the remaining part of the rack in the easiest fashion. I have already tried some in my apiary, and find the bees readily take to them and keep in them. I use them exactly as I have used Lee's and other hanging crates for years—wrapping up with felting or baize. Doubtless there is some trouble in *inserting* the sections in

the frames, but I anticipate much less trouble with them, and much less handling when *taken off* than with other ordinary crates which I use, and this is a great consideration. With your permission I shall be glad to give the practical results of their working at the close of the present season.—JNO. PALMER, *May 26th.*

BEE-KEEPING IN RADNORSHIRE.

[1042.] Some months ago I promised to send a line from my neighbourhood; but, having been laid by with influenza for over two months, I have somewhat delayed. I am by no means prominent in apiculture, though the possession of a third-class expert's certificate entitles me to some little standing in the pursuit.

We have had a long, cold winter in this part, and still have frosty nights, with cold winds by day. Radnorshire, as you may be aware, is one of the late counties as to the seasons, and in apiculture it is something the same. There are several skeppists in the county, and but few who work upon the modern system, yet amongst the few we find those who have made their mark at shows in the surrounding counties. Would that some of our good friends who are well to the front in the various Associations could see their way to extend a little practical sympathy to our county by trying to extend the knowledge of apiculture, as I feel sure that Radnorshire may be made to produce satisfactory results to the bee-keeper. There is plenty of white clover and other honey-plants in every part of the county, and we have thousands of acres of heather.

A word as to wintering. Although we had a bad season last year and a trying winter, bees have come through fairly well. I only know of four lots having gone to the bad, and the loss of these may fairly be attributed to causes quite preventable had proper care been taken. I put seven hives into winter quarters, but being taken ill in February, as afore mentioned, I could pay no attention to the bees; but about three weeks ago a friend, who is well known in the bee-field, paid me a visit, and with his usual kindness went through each lot, finding one dead, the other six in fairly good condition, and by the time of clover-gathering likely to be all right.—RADNOR FOREST.

A HUMBLE-BEE'S NEST IN A DRAWING-ROOM.

[1043.] This curious fact may interest the readers of your *Journal*. A large bumble-bee of the common sort has made a nest in my drawing-room in a mouse-hole. It comes flying in at the window many times a day, and flies about twenty feet to the wall by the side of my writing-table; there it alights on the carpet and runs down the mouse-hole. I am loth to destroy it, but my family do not seem to appreciate the pleasure of a nest of young bumble-bees hatching out. How long can I leave it in safety; it has now been at work about three days, and would it cause any annoyance if left undisturbed?—E. O. B., *Wandsworth Common.*

[If the very excusable nervousness of your family, at having such unusual intruders near, can be overcome, there need be no fear of any annoyance from the little strangers. The bees will pass in and out intent only on their work, and will injure no one if left alone. We know of not a few who would be only too glad to have so excellent an opportunity of observing the habits of the insect.—EDS.]

THE OAK AND THE ASH.

[1044.] Will you please call bee-keepers' attention to the fact that the oak is in full leaf whilst the ash is very backward? This, according to the old couplet, means a wet summer.

'If the oak before the ash,
'Twill be a summer of wet and splash.'

L. N. P.

[We are glad to be enabled to offer a more satisfactory reading of the couplet referred to—at least from a bee-keepers' standpoint — than the one quoted above. We think the correct version reads thus:—

'If the ash before the oak,
Then we may expect a soak!
If the oak before the ash,
Then 'twill only be a splash!'

The portents, therefore, point in quite an opposite direction to that indicated by our correspondent, and if the couplet means anything at all a fine summer may be looked for.—EDS.]

NOTES BY THE WAY.

[1045]. As we are just at the beginning of our honey harvest, I thought I must pen a few notes in addition to those of last week, trusting I am not filling place of more important matter. Well, as usual, it's the weather, and that is nondescript; first it rains, and then it blows, and then both come together with fitful gleams of sunshine occasionally; no opportunity of storing honey for the busy bees, and but little to cheer the heart of the bee-keeper, yet we hope on, and trust, after Whit—or shall I say *Wet*-suntide—is passed that we may get a spell of fine warm weather. Last year we had unsettled weather at Whitsuntide; and now, though it is some weeks later, we are experiencing similar weather. The dull days and frosty nights have retarded swarming. I have only had four swarms, where I expected forty, but all we want is warm weather, and then all would go merry as wedding bells. As new hands are always taking up with bee-keeping who probably do not read up past bee-history, permit me to remind readers of the wants of our bees. The first and most important is water; it must make a great difference to a colony of bees if water is supplied near the hive than if they have to forage the neighbourhood in quest of it. In country places where ponds or brooks are near, the bees will have a constant supply; but in suburban districts, where water-butts

are the only places they can get a supply from, it is imperative that a supply be given near the hives; a very good fountain is a small barrel with a leaking tap; also the drops of water to fall on a slanting board, or on a house flannel, or a shallow pan, with moss or spent tea-leaves, to prevent bees drowning while drinking. I should add the barrel will require a lid, or piece of sacking over the top, or bees will get drowned. Weeds near hives should be kept cleared off, and as a preventive of another crop, sprinkle salt on the ground around the hives; this answers a double purpose, as bees require a portion of saline extract during brood-rearing, and this extract prevents the 'nameless' disease in bees.

Extended alighting-boards are also a great help to bees returning heavy laden, even in the best of bee-weather. How much more so when the poor bees have battled with the rough, chilling winds? With slanting boards reaching from the ground and top end with two nails partly driven in, making a fair joint with edge of alighting-board, many bees returning will fall on the boards and run up into the hive, which otherwise would have fallen on the ground.

Self-hivers.—Mr. Rowell has very kindly sent me one of his self-hivers, which I intend trying next week, and will report result. I notice the holes in his excluder are very narrow, but I suppose it is the new pattern. It seems slightly narrower than Dr. Tinker's, and considerably narrower than some I had from Abbott's some years back, and I have never had queens pass through the latter into supers. Self-hivers are still the topic in America. *Gleanings*, May 15, has illustrations of two—Mr. Alley's enlarged drone-trap, affixed, *à la* Hooker and Rowell, above the entrance of hive; and Dibble's is an elongated drone-trap which traps the queen, but, from drawing and description provides no accommodation for the swarm, which, I suppose, has to return to the parent hive or cluster around the queen in the trap.

I tried Mr. Wells' plan of two colonies in one hive with simply excluder zinc between the colonies and have lost one of the queens. Evidently to make the thing a success one of Mr. Wells' special dummies is required. I notice Mr. Blow advertises 'Wells' hives'—have they the correct excluder? If so, kindly tell us in your advertisement the price of excluder or dummy. In my case the dummy is removed, and the surviving queen left 'monarch of all she surveys,' even if it is not a case of the 'survival of the fittest.'

Metal ends have at last found a lodgment in my apiary, but only till the busy time is over. I bought a few colonies of bees from a neighbouring farmer, and his frames were mixed—some Abbott's pattern, some with ends level with top of bar, some to fit on, and, of course, standing above the bar, and some with the 'W. B. C.' ends. Then he tells me how savage his bees always were when taking honey off. How could it be otherwise with the bottom of crate some half to an inch above the bars, with nearly solid brace combs between? Before I put on crates I scrape off any little pieces of propolis or wax, and the crate fits flat on the top bars, leaving no room for brace combs where the crates are made properly. This, coupled with well-made super-clearers, are some of the pleasures of modern bee-keeping.—W. Woodley, *World's End, Newbury.*

Queries and Replies.

[556.] *Fixing Foundation in Frames—Wasps' Nests in Hives.*—1. I would feel much obliged if you would let me know, through *B.B.J.*, how to fix foundation to frames, the top bar of which is divided by a saw-cut. I never can get the foundation into the cut without breaking it. I found to-day a curious little cell attached to the bottom of a frame of foundation which I have in an empty hive. It is about the size and shape of a walnut, and made of the same material as a wasps' nests. There is a small hole in the bottom of it, and there are a few tiny cells in the inside. 2. Do you think it is likely to be the commencement of a wasps' nest?—J. M., *Lisburn, Ireland, May 24th.*

Reply.—1. Refer to 'Useful Hints' in last week's issue. 2. Yes. It is not uncommon for queen-wasps to begin building their nests in beehives, but they usually give it up and forsake them if in the least disturbed.

[557.] *Glass Covers for Sections.*—1. I always have *glass* cut to fit over my supers of sections. Is there any objection to this? I do it (1) that I can see how the bees are working, without letting them out; (2) no heat escapes. I had a swarm last Saturday, which I see has worked well in the twenty-one pound super of sections. I want to know, if these sections are *not sealed*, and a second swarm issues, 2. What ought I to do with this unfinished crate of sections (also fourteen others), as I find the hives generally weak in bees afterwards. Ought I to remove the crate and feed up (although there is plenty of honey) the old stock, and *then* replace the crate, or leave them as they are? Perhaps *last* year was a bad year to judge by. 3. Which is the best honey-press for heather? Your *B.B.J.* is of the greatest assistance to me in bee-keeping. —R. W. H., *New Forest, Ringwood, June 1st.*

Reply.—1. We know of several bee-keepers who use glass in the manner described, and no doubt it answers the desired purpose very well. 2. Your best course would have been to hive the top swarm on full sheets of foundation, or on built-out combs, and have given the sections to them to finish. There is little chance of them being completed on the present hive after it has swarmed twice. 3. The 'Garstang' press, described in the *B. J.* for September 10th, 1891, is a good one for the purpose.

[558.] Can you please tell me what is wrong, and how to rectify same, from the following note?—I am a beginner in bee-keeping and on

May 9th I bought a double skep containing a stock, which on receiving I placed on the floor-board of my 'Cowan' bar-frame hive. Two days after they seemed to be settled and brought home plenty of pollen, which I thought a good sign; but the skep was old and contained white maggots, many of which I killed; the bees themselves also brought out a few, so on May 16th I tried to drive them into the frame hive, but was not successful, and on the advice of an expert I placed the skep on the top of the frame hive and covered all up warmly. I had fitted six full sheets of foundation in frames. The bees soon worked down into the frame hive and all went well until the 27th, when on getting home in the evening I found a lot of dead and dying bees on the ground, some drones and some workers. I thought these had been robbing and treated them accordingly, by nearly closing the entrance and placing a piece of glass before it; but the dying and dead still continue to be cast out, a dozen or more every evening. I might add that they are still carrying home pollen and plenty of it.—W. A. C., *Waltham Cross, Herts.*

REPLY.—There is no cause for alarm; probably the bees cast out are nothing more than a few baby bees, which on coming down to get a little warm sun at the entrance, and have a look at the outside, have been unable to get back through the frame-hive to the warmth of the skeps overhead. Then, after becoming the last bit infirm or disabled through cold, the bees will often cruelly turn them out as in your case. All will go on well in a few days.

[559.] *Bees near London.*—I have two stocks of bees which were both strong when put up for winter in double-walled hives, and on March 19th the bees in each hive covered about six of the frames. The stronger of the two lots were tranferred to a clean hive on April 21st, when there was brood in six frames, whilst the other only has brood in three frames. On April 26th drones were flying from the strong hive, and on May 7th it was crowded on all combs except two outside ones. On May 12th I gave them a super of six shallow frames, to which the queen had access, and three hanging frames of sections, the sections only being placed above excluder zinc. The six shallow frames are heavy with honey, and all containing eggs or brood. On May 25th bees came out and clustered below the alighting-board and up the hive front, so I removed the sections and excluder zinc, and added four more shallow frames to the upper brood nest. I replaced the now partly filled sections above the shallow frames, and the bees are working well in them. To-day the maximum temperature was 101° F., and yet bees have not swarmed. 1. Do you think I can keep them from swarming now? I am going to give another shallow-frame super, with excluder zinc, on Monday. The queen will have ten standard frames, and twelve to fourteen shallow five-inch frames to breed in? 2. Will this be sufficient? The other hive is also now very strong. I gave them two more frames of foundation to-day, as they were crowding twelve frames, and there were eggs on the outside of the outer comb. My object is to get as much honey as possible, and at the same time to increase to three stocks. 3. How would you advise me to set about it under the circumstances? The honey harvest comes chiefly from garden flowers in the parks (three of which are well within a mile), from chance clover, lime-trees, privet, and other plants, from which the bees seem to get a fair supply. I suppose my two stocks may be called strong for London, and their strength I attribute to the feeder they have had. It consists of a one-pound jam pot, with a half-inch hole in the bottom, stuffed up with sponge. It has taken the bees just a month to get through half a pint of syrup by this means.—H. E. WALLER, *Highbury, N.*

REPLY.—1. It seems probable you will have stopped swarming, but we cannot say for certain. 2. Quite, if not too much. 3. You cannot well hope for a good harvest of honey if the stocks are disturbed and broken up to make artificial swarms from them. Leave them undisturbed till the honey season is over, and then divide the strongest stock into two portions, giving a queen to the queenless part.

Echoes from the Hives.

Stoke Prior, May 26th.—I have at last found courage to write to you about my small stock of bees, which number two, one in a straw skep and the other in a bar-frame hive of thirteen frames. Bees were freely flying early in March, so I gave them some artificial pollen in a small straw skep, as recommended in *B. B. J.* This skep I placed about ten yards from the hives, and it was a treat to watch the busy workers gathering the pea-flour. Strange to say, that the bees belonging to two friends of mine, living about a quarter of a mile and half a mile respectively from here, would not collect the pollen supplied them by their owners, but patronised that which I had provided for mine. After the skep containing pea-flour had been in use for about a week, I went to replenish it, when, to my great surprise, I found comb made about the size of a hen's egg. Can you, Messrs. Editors, or any of your subscribers, account for this? Upon examining my wooden hive (April 27th), I found that every frame was filled with either brood or honey, so to allow more room for breeding I removed the two back frames, which weighed five pounds each, and replaced with frames containing full sheets of foundation. These sheets were soon drawn out. Drones were freely flying May 6th, and as I did not wish the bees in this hive to swarm, I placed over the brood nest, without queen-excluder, on May 17th, a crate containing forty four-way sections, each filled with super foundation. I had a peep into the crate yesterday, but am

sorry to say not a bee was to be seen, nor had any work been done in the sections. Unfortunately, the weather here lately has been not at all suitable for bees. I have, as yet, seen no drones issue from the straw skep. I must ask you to excuse me for making this long, rambling statement, for as this is my first 'Echo,' I have not learned the art how to say what I have to say in as few words as possible. With your kind permission, I should like to relate my experiences some time, for being only a beginner —I commenced in 1891—I, you may be sure, have encountered some mishaps, &c.; but I am more enthusiastic over bees than ever. I derive great assistance from your valuable *B. B. J.*, and am always very glad to receive the paper. —PERCY LEIGH.

Gainsborough, May 31st.—Bees are doing well here since the warm weather set in, and are making up for lost time. Three swarms came off in this neighbourhood last week.—F. J. CRIBB.

Leicester, June 1st.—My bees seem to be doing very well, breeding very fast, but little honey; but hope they will begin to store some when the clover and limes make their appearance. I had my first swarm yesterday at 9.30 a.m.—H. M. RILEY.

Earl Shilton, June 6th, 1892.—It has been too windy for bees to do very much, still they have been busy. Only one swarm in this neighbourhood, and that came out on May 25th. I have no super honey stored yet.—W. S. FULSHAW.

Bee Shows to Come.

June 9th and 10th.—Suffolk Agricultural Society at Bury St. Edmunds. C. S. Gough, Secretary, Northgate Street, Bury St. Edmunds.

June 14th and 15th.—Essex B.K.A., in connexion with the Essex Agricultural Society, at Harlow, Essex. F. H. Meggy, Hon. Sec. E.B.K.A., Chelmsford.

June 20th to 24th.—Royal Agricultural Society at Warwick. Entries closed. Apply J. Huckle, Kings Langley, Herts.

July 13th.—Kent B.K.A. County Show at Hawkhurst, Kent: bees, honey, and appliances, in connexion with Hawkhurst Flower Show Society. Entries close July 9th. For schedules apply J. Garratt, Hon. Sec., Meopham, Kent.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Notices to Correspondents and Inquirers.

REV. JOHN POLEHAMPTON (of Woodlands Vicarage, Froome, Somerset) would be glad to meet with an experienced bee-keeper in his neighbourhood.

H. R. (Hook).—Kindly write us when the 'self-hiver' has been tested in your own apiary, and say how it succeeds.

CYMRO (Glamorgan).—We will be extremely obliged if you will send another sample of the suspected comb, it being perfectly certain there has been a mistake somewhere.

NOVICE (Shrewsbury).—No. 1 is the ordinary black bee of this country. No. 2 is not a bee at all, but simply a two-winged fly. In outward appearance it somewhat resembles one of the wild bees, but it belongs to an altogether different family of insects.

G. W. HOLE.—Honey, as per sample sent, would decidedly be 'eligible for showing.'

AMBROSIA (Devon).—*Foul-broody Hive.*—The comb is foul-brood, and under all the circumstances, including the fact that the hive is an odd-sized one, different to all your others, we should destroy the stock, hive and all. The bees will do no good, and the hive may do harm. Use preventives in the other stocks.

G. D. G. (Tollcross, near Glasgow).—Insects sent belong to the family of leaf-cutters (*Megachile centuncularis*). They burrow in decaying wood, or in brick walls, and make use of cuttings of rose-leaves and the leaves of the annual and perennial Mercury for lining their nest.

R. CHAPMAN (Northants).—Flowers sent are those of the wood anemone and wild strawberry. Bees no doubt gather from them, but they are not accounted of much value as honey plants. The Wells system should answer very well if worked as you propose.

J. E. M. (Dorset).—We strongly advise you to keep to your 'natives' this year, and read some of the literature of the day with reference to the advantages or otherwise of 'Italianising.' For one 'quite new to the pursuit' to proceed as you propose is to court disaster. In bee-keeping the wisest course is to 'make haste slowly,' but if you are determined to begin by 'Italianising at the earliest opportunity' kindly write us again.

J. E. (North Wales).—The comb is foul-broody, and from the details given we should say the bees are not worth troubling with. You will only risk infecting your other hives by trying to cure a small lot of diseased bees. Burn the lot and be done with them.

J. EDMUNDS (Catford).—It is not at all likely the bees will swarm. They are evidently raising a queen in lieu of an old, worn-out one.

*** *Several replies are held over till next week for want of space.*

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

WARWICK EXHIBITION.—The Committee solicit donations of flowers to enable them to make the department allotted to honey, &c., attractive. The exhibition opens on Monday next, the 20th inst. The cost of parcels by Parcel Post or rail will be defrayed by the Association; they should be addressed to the Secretary, Bee Department, Royal Agricultural Show Ground, Warwick. The Secretary requests that all communications sent to him from the 16th to the 23rd inst. be addressed to the care of Mr. Greenfield, Nurseryman, Leamington.

SHOW AT BURY ST. EDMUNDS.

Amid the most favourable surroundings in the shape of magnificent weather, and a list of entries which, as the President (Earl Cadogan) declared, had beaten the previous record of the Jubilee year, the Suffolk Agricultural Society held their annual show at Bury St. Edmunds on the 9th and 10th inst.

Being the first show of the year at which honey and bee-appliances were exhibited, we were anxious to see how the season of 1892 would be inaugurated, and it was a good augury to find that, notwithstanding the early date, there was not only bee-produce of the present season's gathering, but the honey was of excellent quality and very fair in quantity. Sixty-three entries for honey—nearly all of which were staged—at a show held the second week in June is a very satisfactory beginning, and may be said to safely indicate how good the coming season will be if reasonably fine weather is vouchsafed to us. Indeed, it needed but a glance at the magnificent bee-pasturage in full bloom, seen from the train as we journeyed down—fields brilliant with the bloom of sainfoin, without a green leaf visible among its rose-pink blossoms, and acres of white clover in full flower—to verify the remark an exhibitor made to us at the show. 'If,' said he, 'we had only been allowed four or five more days for gathering in, you *would* have seen some honey displayed here!'

The classes for bee-appliances were restricted to two only, and it was no less surprising than disappointing to find that such liberal prizes as 4*l.*, 2*l.*, and 1*l.* in Class 1, and 2*l.* and 1*l.* in Class 2—10*l.* in all offered for two small collections of appliances—did not induce some of our leading manufacturers to put in an appearance. As it was, the first prizes in each case were withheld, and those awarded were carried off by local manufacturers. We venture in these remarks to offer a 'hint' which appliance-dealers should make a note of for next year.

As already stated, there were sixty-three entries for honey, and a very creditable display it was, much better than we expected to see. The first prize collection was a nice lot of honey in comb and extracted, some of the latter being very fine in colour and flavour. It included also some nice samples of wax. The second was much the larger display (over 500 pounds), all extracted honey of last year, rather dark in colour. The wax was good in quality, but lacked another course of 'cleaning.' No third prize was awarded. All the remaining classes were very good indeed in quality, that for granulated honey especially so.

The judges were the Rev. J. L. Seager and Mr. W. Broughton Carr.

LIST OF AWARDS.

Class 1. Best and most complete exhibit of hives and appliances suitable for the working of a modern apiary.—1st prize, not awarded; 2nd, C. Wright, Bury St. Edmunds.

Class 2. Best and most complete exhibi of skeps and appliances suitable for the working of a cottager's apiary.—1st, not awarded; equal 2nd, C. Wright and Samuel Wright, Bury St. Edmunds.

Class 3. Best and most attractive display of honey and wax in any form (four entries).—1st, Mrs. Terry, Tostock, Bury St. Edmunds; 2nd, H. C. J. Bunbury, Barton, Bury St. Edmunds.

Class 4. Best twelve 1-lb. sections (seven entries).—1st, William Woodley, Newbury, Berks; 2nd, Captain W. St. G. Ord, Bury St. Edmunds.

Class 5. Best six 1-lb. sections (ten entries).—1st, William Woodley; 2nd, Rev. H. W. Blunt, Bridgham Rectory, Harling; 3rd, C. S. Gough, Bury St. Edmunds.

Class 6. Best twelve 2-lb. jars extracted

honey (ten entries).—1st, Captain W. St. G. Ord; 2nd, Mrs. Terry; 3rd, W. Debnam, Chelmsford; 4th, H. C. J. Bunbury.

Class 7. Best six 1-lb. jars extracted honey (fifteen entries).—1st, Captain W. St. G. Ord; 2nd, H. C. J. Bunbury; 3rd, T. Badcock, Southfleet, Kent; 4th, Mrs. Terry; 5th, F. H. Brevis, Worley Road, Brentwood; commended, Miss A. J. Davy, Tugglesthorpe Hall, King's Lynn.

Class 8. Best twelve 2-lb. jars granulated honey (nine entries).—Hugh Rolfe, The Laurels, Wormley, Broxbourne; 2nd, Captain W. St. G. Ord; 3rd, H. C. J. Bunbury; 4th, W. Debnam; commended, Captain W. St. G. Ord.

Class 9. Best exhibit of honey in any form gathered by bees the *bonâ fide* property of a cottager (eight entries).—1st, Samuel Wright, Bury St. Edmunds; 2nd, A. Mayell, Bradwell-on-Sea, Southminster; 3rd, W. C. Ranson, Barton, Bury St. Edmunds.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of May, 1892, was 5390*l*.—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1046.] We had a welcome change in the weather last Monday. The week started with a swarm soon after 7 a.m., and we have had a busy week among the bees, putting on supers, packing swarms, cutting out queen-cells, and the other multifarious jobs connected with bee-culture; and now, at the end of the week of brilliant sunshine, we are hoping the falling barometer indicates a good rain and then another period of sunshine. Then we shall figure as 'that happy bee-man.'

I am hopeful now of a good display of honey at the 'Royal Show' in the precincts of the historic town of Warwick, and trust that every entry will be there to be staged. I look forward to a run down to see old familiar faces and renew old acquaintances; and no doubt our old friend and veteran bee-keeper, Mr. John Walton, will be besieged with callers, as his apiary will not be very far from the show-ground.

Re the old couplets on 'Oak and Ash,' I may add that some of our older men have many weatherwise sayings. One is that the first twelve days in the new year denote the kind of weather that will follow during the coming twelve months; also that the first two or three days of each month prognosticate generally the weather for the ensuing month. The first few days of the new year 1892 were dry, warm, and bright for the season, and so we are to have a warm, dry year, with plenty of sunshine. Well, if it should prove correct, that is the kind of weather that suits bee-keepers.

A correspondent asks will I give details of the super-clearer I use? Certainly, with pleasure. It is a square board 16 × 15, with strips nailed around the edges both sides, $\frac{1}{4}$ to $\frac{3}{8}$ of an inch thick. It has a hole in centre, say, 2 or $2\frac{1}{2}$ inches in diameter; and on the under side four wire-cloth cones are fixed for the exits of the bees from the super to the brood nest, with a piece of zinc nailed over the bottom side of the hole, so that the cones form the only way out of the super, and as they are tapering and stand out away from the centre hole, the bees are not likely to find their way back into the super again. I gave the idea to Mr. Flood, of Reading, who makes them, and advertises them in *B. B. J.* as the 'Flood Super-clearer.' Now a word as to use. When your crate of sections is ready to take off the hive, place a box or stool near the hive, place the clearer on it; now take a piece of unbleached calico, about twenty inches square, dip same in diluted carbolic acid, wring out as dry as possible; then loosen the crate, and place the carbolised cloth so that when the crate is lifted off the cloth draws over and covers the frames. If it is done neatly not a single bee will fly. Then gently place the crate on the clearer, remove the cloth off brood frames quickly, and as quickly (but don't jar) replace the clearer and crate of sections on the hive. If this job is done in the evening, the sections will be clear of bees in the morning, unless there should be brood in any of them. Of course, if the hive is very full of bees and the honey season still on, another crate should be inserted before the sections in the first one are quite sealed over, and for this job use the carbolised cloth, or two cloths are useful; or another crate of sections may be put on the brood frames, and the clearer and crate of full ones on the top.

'Lecture Notes' must prove stepping-stones to the lecturer on apiculture. The great difficulty is to come down to the level of the majority of the audience, so that one is not lecturing above the heads of the hearers. We must not forget that we are dealing with third and fourth standard scholars of the younger men, and with the elder portion of the audience no standard at all, as they have left school—if they ever went at all—many years before Mr. Forster introduced his Elementary Education Act. To give an illustration how unintelligible our nomenclature

is even to educated men, the other day I was busy 'supering' my hives, when our Vicar gave us a call. I apologised for keeping him waiting, having a hive open. I had been putting on supers, I explained. 'I don't understand,' he said. I replied it was the term we used for a number of the little boxes in a larger box for the bees to fill with honey, showing him some just ready to put on. Another caller (a lady who had been head of a large school for young ladies), when I used the term 'super honey,' said, 'Super, super—oh, yes—something above another of its kind.' Here we have a mind that could grasp the meaning of the word; but in a general lecture the very few may understand, but the majority would be in a complete fog. I have far greater hopes of propagating a knowledge of modern bee-keeping by classes than by lectures. The lecturer may arouse the mind into a receptive condition, but it will be by classes carried on during a period of time that will instil line upon line and precept after precept, so that it may be understood and retained in the mind of the scholar. Then another reason for classes is that two or three villages can be grouped together, and the classes carried on during the winter months in one central village, or in each village in turn. These classes should be open, in one sense of the word, that any one who felt an interest in the matter should be free to attend; but the scholars in bee-culture should pay a small entry fee, to be returned to the most proficient in the class in the shape of useful appliances, or, better still, in standard works on bee-keeping, as prizes at the end of the term.

When using full sheets of foundation in frames, be sure and have your hive level, and cut the foundation so that the edge of the sheet just touches the wood of frame, and then the first job the bees will do will be to fix it all round; and if the saw-cut in top bar is wide, a small screw is far better than nailing, as the blows of the hammer often cut the wax nearly through when nails are used; but the screw simply closes the cut with a grip on the wax.—W. Woodley, *World's End, Newbury.*

RAISING QUEENS IN COLONIES HAVING A FERTILISED QUEEN.

[1047.] Early in May, as I required a queen to replace one producing very spiteful progeny, and having read Dr. Tinker's letter (958, p. 95), I divided up a ten-frame hive into two of five frames each by placing the dummy in between them, giving the bulk of the brood to the queenless portion. Now, I am not writing this to throw any doubt upon Dr. Tinker's statements, but as a warning to my fellow bee-keepers; still, when I came to look for queen-cells about ten days later, I found no sign of any queen-cells, the reason for which being, as I suppose, that the hive was not sufficiently strong, and honey was not coming in fast enough. However, I captured the queen, and after removing the mother of the naughty bees aforesaid, gave her to the latter colony, which was a very strong one, and received her very kindly. But now comes the sad part of my tale. A fortnight later I removed the super of sections, which I found the bees only just beginning to work upon, and again examined the colony, when I found queen-cells being formed, and the bees preparing to swarm. To prevent this I took away all the brood combs; in fact, made an artificial swarm, a fine one too, about six or more pounds, and rehived them upon the old spot, and put the super on again, giving them some partially worked-out combs, of last summer's make, in two or three of which there were some dead bees. This was last Tuesday. On Friday I went to see how they were getting on. The frames were still there, so was the empty super; but, 'oh, where and oh, where have those bees gone? oh, where and oh, where can they be?' This is the first lot of bees I ever lost in this way. To balance up: Loss—the bees. Gain—the experience. The balance is on the wrong side.

Yesterday (10th June) I found a hive of my bees working out new comb of a brownish colour. This puzzled me at the time, as I do not remember them doing this before, but I subsequently found them working on some old combs which I have in the attic, by which I account for it. Is not this unusual at this time of year? [Yes.—Eds.]

In regard to miscalled 'decoy hives,' I see no harm in placing empty hives, prepared for swarms, without closing up the entrance, and shall continue to do so. I have in this way saved some of my own swarms, and if my neighbours have in this way obtained any of the many swarms I know I have lost, I do not grudge them the gain.—A. T. Wilmot, *St. Albans.*

PALESTINE AND TUNISIAN BEES.

[1048.] This is a very busy season with us (making comb foundation still). The orange-trees are filling the air with their odour and the bees are busy. From sunrise to sunset all is movement, diligence, and bustle. It was too warm in February and the bloom was out ten days too soon; this generally proves a great loss, for the bees are not all quite ready. February was just as warm as March, the thermometer never going below 14° Celsius (57.20° Fahr.) before sunrise, *i.e.*, the coldest time in the twenty-four hours. At noon it only once rose to 22° C. (71.60° F.) but as a rule remained at 17° or 18° (62.60° or 64.40° F.). This equal temperature was not very conducive to the flow of nectar, and up to the 16th of March we only had 1 kilo. 500 grammes brought in, and on the 16th 2 kilos.

On account of poor health and other reasons I shall leave Palestine in May and settle in the south of France, and if you are passing Marseilles from Algiers or Tunis I should be glad to know it and call upon you. I followed your

'Punic war' with interest and have been wholly on your side of the question. I have had Tunisian bees in my apiary, and found them a *busy, prolific*, but a *very robbing* race. Just to mention to you one case, I had one hive of Tunisians in 1886 and several hundred Palestines. At the end of April a window of the honey house was left open by accident without being covered by the wire gauze. In this room there were several tanks holding 500 pounds of honey each, and one happened not to be covered with the muslin. The orange blossom was over and the robbers made a start, but imagine my surprise when I found dead *Tunisians one inch deep*, and only a few Palestines. I would call them 99 per cent. greater robbers than Palestines; at any rate, the dead were in this proportion. They are very tenacious robbers and very difficult to send away, and contrast unfavourably with our Palestines, who will leave off robbing after an hour or two, even in the worst cases.—PH. J. BALDENSPERGER, *Jaffa*.

[We can thoroughly endorse all our correspondent says about Tunisian bees and their robbing propensities, notwithstanding what has been said to the contrary by persons interested in their sale. As none of these bees are now being imported into this country, and as it is more than twelve months since any have been sent over, it is fortunate that the few queens that came over before that time are not likely to have much contaminated our own races. We very much doubt if there is any bee-keeper in this country who has a pure Tunisian queen, and if there happens to be such a queen she must be pretty aged. We shall have a good deal more to say about Tunisian bees now that we have returned from Tunis, but must reserve this for a special article. We need hardly tell our correspondent that, although we made the most careful investigations, we failed to find any of the so-called Punic bees.—EDS.]

REPLYING TO QUERIES.

[1049.] Referring to what appeared on p. 210, you must allow me to repudiate any intention of diverging from the established rules of the *Journal*, and above all any want of respect for the Editors whose combined practical and scientific ability, I think, cannot be equalled in this country — or out of it. I never contemplated that my letter would appear otherwise than with the other correspondence, nor do I think it should be described as adverse criticism. In your reply, you gave the orthodox treatment, 'unite or feed up,' and I suggested a departure from the established practice.—T. F. L., *Brondesbury, June 5th.*

STRAW SKEPS ON FRAME HIVES.

[1050.] Referring to the letter of 'W. A. C.' (558, p. 222 of last week's *B. J.*) kindly allow me to say that among my bees I have two stocks in straw hives, and having had the misfortune to lose a stock in a frame hive last winter I took away the worst combs, leaving only the cleanest, and substituting full sheets of foundation for those removed. I then made another frame hive, filling seven frames out of ten with full sheets of foundation, the remaining three with starters only. On May 13th I covered the frames of both these hives with carpet, cutting out a large round hole somewhat less than diameter of the skeps. I then set one of these stocks in skeps on each of the frame hives, so that the bees had to pass down through the frames when leaving the hive. At the end of a fortnight I saw they were working away merrily in the lower hives, and in one the queen was among the frames with capped brood. In that case I lifted off the skep and put on a queen-excluder between it and the lower hive before replacing it. In the other case I had to resort to driving to get the queen down. I then placed them back on excluder zinc. At the end of three weeks I think all the brood will be out, so that I can remove the skeps and replace with crates of sections. I took off my first boxes of honey on May 28th, from driven bees placed in the hive on full sheets of foundation in August, 1891. This stock swarmed on the 29th. I cut out all queen-cells and returned the swarm the same day. The bees are very busy at the white clover now.—E. T., *Pulborough, Sussex.*

BEE-KEEPING IN LINCOLNSHIRE.

[1051.] A lecture on the above subject was delivered in the Town Hall, Brigg, on Thursday, June 2nd, by Mr. Brown, of Appleby, one of the most practical and successful bee-keepers in the district, to a fairly large audience. The lecture was one of a series arranged by the Technical Education Committee of the County Council, and the chair was taken by Mr. Alderman Halmshaw.

Mr. Brown fully explained the modern system of bee-keeping, showing hives and appliances suitable for gathering the honey of the district, which is chiefly got from white clover. The lecturer also spoke of large takes of honey in the district of over one hundred pounds per hive. The swarming of the straw skep was fully explained, also the system of driving which he hoped would be adopted by the skeppists, to save their bees from the sulphur pit. The natural history of bees was also touched upon, and this portion of the lecturer's discourse was illustrated with diagrams, &c. One of the most interesting lectures we have had in Brigg was brought to a close by the usual vote of thanks.

Bees are rather late with us this year owing to the late spell of cold and stormy weather. A few swarms have come off in the sheltered parts of the district.—E. W. G., *June 4th.*

BEE-KEEPING IN MORAYSHIRE.

[1052.] My six stocks have come through fine this season, but no signs of swarming as yet. The other day, as one of our most enthusiastic bee-keepers was crossing a field of

new grass, he found a plant of the white clover in full bloom. I think this is very early for this part of the kingdom. Our Association is progressing very well; we have twenty-three members, and it is named the Darnaway, Moyness, and District Bee-keepers' Association. We are very much indebted to the *Bee Journal* for its wholesome advice.—AMATEUR, *Darnaway, Forres, N.B., June 4th.*

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

May, 1892.

Rainfall .... 1·05 in.	Sunshine, 244·05 hrs.
Heaviest fall, ·63 in. on 25th.	Brightest day, 22nd, 13·20 hrs.
Rain fell on 7 days.	Sunless days, 0.
Below average, 1·47.	Above average, 7 hrs.
Max. temp., 68° on 28th.	Mean max. temp., 59·9°.
Min. temp., 28° on 7th.	Mean min., 43·2°.
Min. on grass, 17° on 7th.	Mean temp., 52·5°.
Frosty nights, 3.	

The cold weather at the beginning of the month threw back the bees, and very little honey was gathered from the fruit-blossom. I have only heard of one swarm in the neighbourhood. —L. B. BIRKETT.

EARL SHILTON, LEICESTERSHIRE.

May, 1892.

Maximum temperature, 31st	88°
Minimum „ 6th	29°
Mean max. „ 31st	74·3°
„ min. „ 4th	42°
„ temperature	58·5°
Rainfall	2·17 in.
Highest rainfall in 24 hrs., 27th..	0·49 „
Rain on.....	12 days.
Prevailing wind	s.

W. S. FULSHAW.

BAGNALSTOWN, IRELAND.

May, 1892.

Rainfall	3·26 in.
Greatest rainfall in 24 hours, 29th	1·34 „
Number of days on which rain fell	19
Maximum temperature, 28th ..	70°
Minimum „ 6th ..	35°
Max. ground „ 31st ..	52°
Min. „ „ 6th ..	23°
Mean max. „	62·12°
Mean min. „	46·38°
Mean ground „	38·96°
Frosty nights.....	8

The first half of month was bright and favourable for honey and pollen gathering, but latter half dull with rain, when bees kept much indoors. Swarming has been *nil* on account of dull weather; only a few have come off in this neighbourhood.—J. HENDERSON.

BUCKNALL, LINCOLNSHIRE. BM. 25.

May, 1892.

Maximum .. 81° on 31st.	*Rain*:—2·19 in.
Minimum .. 23° on 6th.	In 24 hrs., ·45 in. on 2nd.
Mean maximum .... 63°.	Average of 6 years, 2·03.
Mean minimum .. 41·3°.	Rain on 16 days.
Mean temperature.. 52·2°.	Frosty nights, 5.
Mean of 6 years .. 50·4°.	Range mean, 22·7°.

J. BINT.

Queries and Replies.

[560.] *Artificial Swarming.*—1. I thank you for your replies to my queries (553, p. 214), but the reason given by you to No. 4, as to why the drones have been killed, cannot be the right one, for one of the hives referred to has given a swarm weighing over six pounds, which we have hived after many adventures. 2. As I saw the parent hive (skep) was very strong, and as I did not want a second swarm from it, I tried to drive the bees from it into a 'Layens' hive, holding five large frames. We succeeded, after over an hour's smoking and knocking, in getting the bees to go up into the latter, and when the skep was nearly empty of bees, I cut out from it about twenty pounds of comb full of honey, and brood enough to almost fill two of the large frames of the 'Layens.' I then tied the combs in the frames, added the two frames of brood to three of comb foundation I had already placed there, and anxiously awaited the result. Of course I put the parent hive back in its place (I had put a temporary skep on the old stand while driving operations were going on); but the result is, that by 7 p.m. same day the Layens hive was all but empty of bees, the queen and colony having returned to their old quarters. The Layens hive is since then visited —perhaps *tenanted*—by a thousand or so of workers and drones, the workers being busily employed in carrying out dead brood killed by my knife. All the brood was not dead yesterday. It has been so very hot; but to-day it is much fresher, a high gale, and the rain coming down in torrents, so I suppose we are going to have a wet June, as the change of weather has come in with the new moon. My first swarm issued on the 30th of May, and seems to have taken to the frame hive into which it was put. The hive, therefore, weighed close on 100 pounds, and it was as full as it could be; therefore want of stores was not the reason the drones were killed. I knew how full of honey the hives were, else I should have myself believed that was the reason the workers killed the drones. I knew it could not be lack of stores, for most of the hives weighed fifty pounds each in December, 1891. 3. I mark No. 555 (p. 215) in the *Journal*, on 'Bees Dwindling.' The same thing

has happened to another hive of mine tenanted by Italian bees. Perhaps I have overfed it, for there is still one frame of honey untouched. I believe the queen is there, as I have seen dead brood carried out; but I am going to overhaul it seriously the first fine day next week. I peeped in, and I saw that several of the frames were stuck together; so I shall take my warmed knife and cut them asunder, and put a frame with comb foundation between each. I have been so preached to to 'leave my bees alone,' 'not to meddle with them,' 'not to fuss,' &c., that I am beginning to think if I do not do something desperate, I shall never learn anything at all.—GISORS, *Gisors* (*Eure*), *France, June 5th.*

REPLY.—1. Replying to queries in bee-matters is often more difficult than a doctor diagnosing a case without seeing his patient's tongue, and so we must take refuge in the facts that 'bees do nothing invariably,' and our correspondent's omitting to say whether food in the hive was plentiful. A few drones cast out in spring is common enough, but they are never massacred in the usual sense at that time; hence our reply. 2. In transferring a stock from the skep to a frame hive the queen should have been carefully watched for, and seen safely hived with the bees, and the transferred stock set on the old stand. Then all would have gone on right. As it was, you must have, by some means, left the queen in the skep, and, by setting the latter on its usual stand, the bees, of course, joined her. 3. In spite of your desire to 'do something desperate,' we must strongly advise you against proceeding as proposed with the stock which is described as 'dwindling.' To divide the brood combs of such a stock by inserting a sheet of foundation between each is to court disaster.

[561.] *Bees attacking Fowls.*—I keep four stocks of bees in a yard where chickens are being reared. Size of yard is about 100 yards by 40. Up to the 7th inst. all went on well, but to my dismay on the 9th I was told that the bees had attacked the chickens, and that three —about fourteen days old—were dead, and some others were seriously stung. Can you, sirs, recommend any course to prevent a recurrence of this? I may say, although very hot weather, it has not again occurred since the 7th inst.—E. BUNNEY, *Swansea.*

REPLY.—Bees seldom do mischief such as you report. In very hot weather it may be risky to allow chickens a free run up to the hives, but if wired off a yard or two, the risk would be minimised. We have known bees kept for years in near proximity to fowls without any harm resulting.

[562.] *Queen not Laying.*—1. Can you tell me why the enclosed queen has not laid any eggs, though the swarm she headed has been hived a fortnight? 2. I captured this queen, then took a well-filled frame of sealed brood from my strongest hive, and placed it in the middle of the frames on which the swarm were clustering. How long shall I let the swarm be now before I look at them? 3. If they rear a young queen, how long will it be before she lays eggs? 4. Would you advise uniting this swarm with the next I have out? It was a very strong one when I hived it.—H. G. C., *Staines.*

REPLY.—1. From the appearance of the queen, we fancy she has been accidentally ruptured in hiving the swarm. 2. There should be queen-cells by the time this appears in print if the bees are rearing queens from the brood given. 3. Much depends on the weather. Queens are frequently mated in three days after birth, and begin to lay one or two days later. This time, however, is extended if the weather be cold at the time she is hatched. 4. No.

[563.] *A Novice Hiving his First Swarm.*—I am a novice at bee-keeping, but I have read thoroughly Cowan's *Guide-book*. I bought a last year's swarm in a straw skep in February, and thinking they might not have enough stores fed them with sugar. On Thursday, May 26th, there issued a strong swarm, which settled on a pear-tree in my next door neighbour's garden. Having no skep to hive them in I used a zinc pail. I had previously prepared the frame hive with nine frames and comb foundation. The first time I attempted to shake the bees off the pear-tree a good number fell into the pail. I immediately covered it over with a cloth, and brought it round to my hive, having previously placed a slanting board in front, and covered it with a tablecloth. I then shook the swarm on to the cloth, and they ran into the hive. Once more I went back, still leaving a few on the tree; the third and last time I shook the tree hard, unfortunately breaking the branch. I was frightened at first, so I suppose did not shake hard enough, as I did not wish to damage the tree; but they are all right in the hive now, and have started work on the foundation. I put a feeder on top with syrup in. The old skep with the remaining bees I have placed on top of a bar hive, with nine frames of foundation.

1. Is there any likelihood of the bees swarming again? 2. When can I take the straw skep away? I take in the *Journal* and *Record*, and have had most useful hints from both, and I thought by telling you the experience of a novice taking his first swarm might be useful to any one placed in a similar position with your remarks attached. I have not put excluder zinc between the straw skeps and hive, as I saw in one number of the *Journal* it would have worried the queen. I did not drive the bees out of the skep; simply lifted it off the stand and placed it on the hive. 3. I enclose a sample of comb foundation, is it the right kind of comb? During this warm weather it seems to stretch, and when I hived the swarm some of it broke down, so I had to put in fresh. Would you advise where I can get good foundation?

My garden is a very small one, five-and-twenty

feet wide by forty feet long, divided off from the other gardens both sides by wooden palings. The bees do not annoy my neighbours in the least, so I should think no one need be afraid of keeping them under similar conditions. 4. Is there a Bee-keepers' Association for Sussex? If so, kindly inform me the name and address of Secretary.—A. J. M., *Hassocks, Sussex, May 30th.*

REPLY.—1. The chances of the skep casting a second swarm are considerably lessened by what you have done, and still more so if the skep is now on a different stand to the one it originally occupied. You may, however, make sure of what to expect by listening on the evening of the eighth day after swarming for 'piping.' If this is not heard no further swarm need be looked for. 2. At close of the honey season. 3. No; the sample is thin foundation for use in supers. You should use brood foundation. 4. There is no Association in Sussex.

[564.] *Swarms Decamping.*—I have had two swarms lately—one on May 23rd, the other two days later. The first I hived in a skep, where the bees remained for two days, and then flew right away. My brother had a swarm the same day, and they served him just the same after they were hived. I should be very glad if you can say what is the cause of swarms leaving the skep after they are hived in this way?—C. H., *Wonersh, near Guildford.*

REPLY.—Beyond saying that the skeps should be clean—*i.e.*, not be 'dressed' with herbs or nostrums of any kind—that the queen is, if possible, seen to be with the swarm, and that the skep in which the bees are hived is shaded from hot sun, we know of no other means by which swarms can be induced to remain where hived. It is not always in good taste to parade personal experiences, but we cannot help saying that during more than a quarter of a century's bee-keeping, and the hiving of hundreds of swarms, we have not had more than a couple of cases of our swarms decamping in the whole time.

[565.] Will you kindly allow me a little space in your valuable paper, of which I have been a reader for ten years? I have kept bees for twenty years, and possess thirty-six stocks, mostly in frame hives, but for all my reading I have a hive that beats me. It is the strongest hive I possess, and whenever bees are busy working there are a lot of black, shiny bees running about, and the older bees killing them. What must I do to cure them?—W. B., *Cawood, Selby, June 2nd,* 1892.

REPLY.—The 'black, shiny bees' referred to occasionally appear in hives, but they need cause you no alarm. They are bees which have entirely lost their pubescence; through constant struggling with other bees all the hairs get rubbed off the body, which shines like polished ebony. These bees don't work, and being truly the 'black sheep' of the community they experience a rough time where only industry among workers is tolerated, hence their hairlessness.

[566.] *Dealing with Foul Brood.*—I have found foul brood in my apiary. It is the first time I have ever seen the disease. I have six stocks in the home garden, all doing well, and I have eleven in another place about fifty yards way; it is in this lot the foul brood is. Would it be best to move the affected stocks to a distance or treat them where they are? Will you kindly send me some of each remedy—Naphthaline and Naphthol Beta—and say how I must use it. Also any other advice will be very welcome.—B. O., *Hants, June 3rd.*

REPLY.—It is most difficult to treat cases of foul brood at this season, because to effect a cure medicated syrup must be freely partaken of by the bees, and this they are not at all disposed to do when honey can be had outside. We advise you to examine the diseased stocks some evening soon, and any that are badly affected or that are very weak in bees we would destroy out-and-out—burn bees, combs, and frames, and thoroughly disinfect the hives before using again. Any not so bad may have naphthaline given as directed, and, if convenient, be moved a couple of miles away from your healthy stocks. On no account manipulate the diseased colonies while you are working about the healthy stocks; promiscuous handling will almost surely infect all. After the season is over, see how far the disease has made headway or been checked, and act accordingly. Finally, give a dose of naphthaline to every stock—healthy or diseased—at once.

Echoes from the Hives.

Algiers, May 30th.—The honey harvest in my apiary is very good, but my neighbour, Regnier, complains that he has not as much as he had last year. He has decided to take the management of six apiaries (about 1000 hives), belonging to M. D., of Bonfarik. I hope also to get M. Baldensperger to assist me in establishing two large apiaries in the Sahel. Several of my neighbours have decided to adopt my Cowan hives, and what they most admired was the storifying principle—three stories full of bees and honey. I am going to exhibit, on the 26th June, at Donera, an empty hive and another full, and I think I shall surprise a good many of the colonists who are ignorant of the modern advances in bee-keeping.—L. ROUX.

Whitemire, Darnaway by Forres, June 6th, 1892.—A hive belonging to a lady bee-keeper of Brompton, Moyness, Nairnshire, swarmed to-day (June 6th). This is very early for this part of the country. I may say the swarm entered an old skep full of combs which had been robbed this spring. The owner thinks that the bees which swarmed were the robbers.—DUNCAN MCDONALD.

Stoke Prior, June 11th.—The weather here has been splendid for bees. Thermometer 83° in the shade, with refreshing showers every few days, thus indicating a good flow of nectar in the flowers. It is quite surprising to see what a number of bees visit the raspberry canes; I counted as many as twenty-five on one cane, and where these bushes are planted in their thousands, one is led to look for a good honey-flow. Clover also is coming into bloom. Glad to find that Whitsuntide was not *Wet*-suntide, as it had been in so many former years. Weather here was perfection; bees have been clustering outside one of my frame hives for the last five days and nights in immense numbers, far more than I have ever seen before. I should think there were as many as constitutes a good swarm, viz., from four to five pounds. I tried to drive them into their hive by smoking them, and although we had a heavy thunderstorm yesterday afternoon, making the air much cooler, and the bees very wet indeed, still, they did not attempt to re-enter their hive, and they hang out as thickly as ever. I hope they will soon swarm, for they are wasting valuable time. I may add that a swarm, which issued on June 6th, was the first I have seen or heard of this season about this district. Our Vicar had one on June 8th. My own bees have not swarmed yet, only a few bees up in sections, and no comb drawn out, although crate been on since May 17th. How cheering to bee-keepers if we have a continuance of the present weather.—PERCY LEIGH.

[The bees will cease clustering outside if more ventilation is given below.—EDS.]

Northampton, June 12th.—Bees are doing well here, and just beginning to fill up supers. Swarming is rather slack this year on the whole. The first swarm in this neighbourhood came off on May 21st. White clover is blooming, and the limes are in bud, and the prospect of a good honey harvest is very favourable.—E. B.

Wolverhampton, June 13th.—Bees here are ready and waiting for the honey-flow with a return of warm sunshine, but they are not so strong as they were the last two years. I am working one lot on the Wells system, doing well on forty frames, both queens laying well. A woven-wire divider separates them. Entrances are placed at front and side of this hive. All my ten others are being worked for extracted honey. I hear of a few swarms round the district.—THOMAS J. HORSLEY.

Bee Shows to Come.

June 20th to 24th.—Royal Agricultural Society at Warwick. Entries closed. Apply J. Huckle, Kings Langley, Herts.

July 13th to 15th.—Lincolnshire Agricultural Society, at Lincoln. 24*l.* in prizes for hives and honey. Entries close July 1st. For schedules, apply Stephen Upton, Secretary, St. Benedict's Square, Lincoln.

July 13th.—Kent B.K.A. County Show at Hawkhurst, Kent: bees, honey, and appliances, in connexion with Hawkhurst Flower Show Society. Entries close July 9th. For schedules apply J. Garratt, Hon. Sec., Meopham, Kent.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. B. (Wakes Colne).—*Adding Surplus Chambers.*—We should set the third box above the other two, and leave the whole on until the best of the season is over.

GEORGE CAMERON (Kirriemuir).—The assistant secretary of the Scottish Bee-keepers' Association is Mr. John Wishart, 5 Market Place, Melrose.

CONSTANT READER (Bridgewater).—There is no Bee Association in Somerset. Bees, if carefully managed, may be located near a neighbour's garden without causing any annoyance or nuisance whatever, provided, of course, that only a few hives are kept.

SILVER BIRCH (Fallowfield).—One of the queens sent bears unmistakable evidence of having been mated just before being killed on her return to the hive. The other three are the usual 'virgins' cast out after the issue of a second swarm.

A. W. COOPER.—Comb sent is affected with foul brood.

A. J. BROWN.—'Non-sectional' means a super which cannot be parted or divided. If the super referred to was not capable of division it was a non-sectional super.

BOX (Feltham).—Driven bees in autumn are far better when provided with ready-built combs. If you refer to the summer-time, full sheets of foundation will be suitable.

*** *Several replies, including some on foul-brood questions, will appear next week.*

THE

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Editorial, Notices, &c.

NORTH AFRICAN BEES—WHAT ARE 'PUNICS?'

Now that we have returned from our travels in Tunis and Algeria, no doubt our friends will like to know something about the bees of these countries. We intend later, when there is not so much pressure upon our space, to give a full, detailed account, with illustrations, of the different apiaries we have visited, and of our experiences with bees in Africa, pleasant and otherwise; for there is much to relate, and no doubt some of the information will be rather startling to our readers.

The journey was undertaken in the interests of bee-keeping, and for the purpose of removing, if possible, some uncertainties that existed with regard to the bees of North Africa. Our original plan has been, with few variations, carried out; and after visiting Tunis, Algeria, and taking Switzerland on our way, we have returned home greatly benefited by the change. During our travels we visited thirty-two apiaries, and gathered very much information.

Our readers will remember that, last year, on page 380 of *B. B. J.*, a correspondent asked us about so-called *Punic* bees, which had been praised by a certain writer in a gardening paper, and about which some marvellous stories were told. A great mystery was made as to where they came from. 'They came from North Africa, close on the borders of the Great Sahara desert' (*B. B. J.*, 1890, page 271), the writer said; but we knew of no such race of bees in Northern Africa, although we stated we knew those of Algeria, Morocco, and Tunis. By a special favour, a comb of bees, not entered for competition, was allowed to be shown at the Royal Agricultural Show at Doncaster last year. These were labelled *Punic Bees—Apis niger*. On being appealed to respecting them, we stated that we could not see that they differed in any way from the ordinary North African bees, and that no such race as *Apis niger* was known to entomologists. We have had to put up with the abuse of those interested in the sale of these bees and their friends, but this has not deterred us from doing our duty to our readers. An attempt was made to get them classified in the British Museum as *Apis niger*, but, fortunately for the credit of the officials of that institution, this failed; and when we saw the bees, we pronounced them to be no different from the ordinary Tunisian bees, although we were told by the assistant the importer had stated that they were *not* the ordinary Tunisian bees.

Whether or no there were two races of bees in Northern Africa was the object of our visit, and we also wanted to see for ourselves if the gentleman who had supplied them had two races in his neighbourhood, and if the stories about the difficulty of getting these bees were true. It may interest our readers if we make an extract from what a 'Hallamshire Bee-keeper' said about them in the *Canadian Bee Journal* for 1891, p. 458:—

'I have been "much asked" for Punic queens, imported and pure mated, and have not been able to supply any, though I have reared and distributed several hundred virgin ones. I have tried for years to get more imported ones, without succeeding until the past summer, when *I managed to get an importation at a cost which I dare not mention, for fear of being regarded as a crank lunatic.*' (The italics are ours.—EDS. *B. B. J.*) 'But for all that, I am going in for more, and hope to get fifty queens at least in February, or early in March. The difficulties to contend with may be guessed at a little when I say that I have to make and prepare travelling hives here, and then get them to their native land in Africa, on the borders of the great Sahara desert. They have to be carried to and from the coast, either on the heads of negro natives, or the backs of camels. After the middle of March it is too hot to transport them to the coast with safety. Their natural swarming months are December, January, and February, so I hope to get only young queens. All the arrangements will be carried out by the party who got me the lot this summer, but whose knowledge of bees is rather limited.' 'What they will cost me is all guess work, but I shall have it to pay, no matter what it is, and though I want most of the queens for my own use, the undertaking is also with a view to carry on the importation through my friend in future.

'Should any one wish for a queen, I would undertake to deliver one free and safe anywhere on the North American Continent, if spoken before March 1st, for $40 (8*l.*). They certainly won't be less than this, perhaps very much more; but, as I say, I am on with the experiment *to see what they will cost me* to import. Every dollar I can "unload" will be so much less expense to bear. Parties who want to write me had better address me in care of John Hewitt, Esq., Sheffield, Eng.' 'Anyhow, *here*, we are getting bees *from Africa*, and they will be to be had in the future if they are willing to pay the price. But, considering how readily they can be propagated, they would

pay well even if imported breeding queens cost $100 (20*l.*) each, and possibly this is the sum they will cost.'

There is much more that we could quote, and that we in future will have to quote, but for the present we will deal with the above. Who is this 'Hallamshire Bee-Keeper' who wishes communications to be addressed to him in care of J. Hewitt, Esq. There is no secret about this, for we have before us a grossly libellous circular that has been circulated since June last year, and is being circulated at the present time, making abusive and false statements against our leading bee-keepers, through whose energy the present position of bee-keeping in this country is entirely due. This circular is signed 'John Hewitt,' otherwise 'A Hallamshire Bee-Keeper,' so that these two are the same. This person has the support of a certain gardening paper, to wit, the *Journal of Horticulture*, which recommends him to its readers by saying, 'Our long experience has led us to regard him as an accurate correspondent.'

(*To be concluded next week.*)

USEFUL HINTS.

Weather.—British bee-keepers still have much to be thankful for, though not quite so warm as we could wish for a few days. Since we last wrote there has been sunshine enough to keep bees going on fairly well, and a very satisfactory quantity of early honey has already been secured. The 'Royal' show will have tested its quantity as well as its quality before these lines are read, but it a good sign when we hear of several bee-men having got off sufficient to complete their entries for the exhibition, and that it will certainly be staged. Thus far, then, the weather has been kind to us; how long it will last it is hard to say, especially in view of the terrible tornadoes just now occurring across the Atlantic. As we write, the news comes that according to a Dalziel's telegram from Montreal, dated June 16th, 'a hurricane of unexampled fury swept the provinces of Quebec and Ontario yesterday, devastating entire districts, levelling houses and barns, destroying large timber forests, and ruining hundreds of orchards and fruit gardens. At St. Rose, seventeen miles from Montreal, the tornado was most disastrous in its effects. The roar of the approaching hurricane could be heard for miles, and when it reached the village no building was strong enough to withstand its force.'

The Prospects of the Season.—From all quarters come encouraging reports of the outlook; bees in the south have done very well indeed for a fortnight past, and are now gathering honey well on towards the north, so that after all we may expect stocks to be at work in supers all over the country by the third week of the present month. Swarming has not been excessive so far, and altogether there is every hope of a good and profitable season.

Uniting Bees (A 'Useful Hint').—A correspondent writes as follows:—

'Reaching home from business yesterday (June 9th), I found my people had been much bothered in trying to hive a swarm of bees which had clustered in a tree in my garden about half-past eleven. They thought it was a stray swarm, as all my own hives were working as usual; but, though it had been twice hived in a skep, the bees would not settle, but came out again, and went to the old spot on the tree, where the swarm (not a large one) was clustered on my arrival. I hived them, and from the restlessness of the bees suspected there was no queen with the swarm, so to make sure I threw them on to a tablecloth in small lots, carefully searching for the queen as they ran into an empty hive. She was not there, however, and it occurred to me that I could utilise the queenless bees by adding them to a strong swarm hived two days before. How to unite without fighting was the question, and so, remembering the Scotch adage, 'Ye're aye welcome wi' a fu' pouch,' I got a box of shallow combs—dripping with honey after extracting—and ran the stray swarm into it. While they were settling down in this box, I put a queen-excluder on the strong swarm, and then quietly set the box of combs on top. Now, thought I, as the strangers will be well gorged with honey, no row will take place, and sure enough, for an hour afterwards, all were quiet as a mouse. Full of conceit at the success of my performance, I retired indoors, and 'crowed,' perhaps, a little too loudly over my wisdom in bee-matters, finally retiring to bed, well contented with myself. Next morning at 7 a.m. I went just to have a listen to the contented hum of the 'joined forces,' and found every blessed bee of the added swarm lying in a heap below the alighting-board, dead! I cast an eye around to see that no one was looking, and carefully concealed those bees from sight, hoping to hide my vaunted wisdom and the corpses of the victims of it at the same time. Now, Messrs. Editors, what does it all mean—can you tell?'

The above recalls to our minds some correspondence which appeared in our columns about a year ago on the causes of bees fighting among themselves; and though we could not quite agree with the theory propounded at the time, viz., that 'there is no readier method of making bees fight among themselves than by giving them combs dripping with honey,' there is a con-

siderable amount of danger in giving such combs under the circumstances described above, for we quite believe they contributed much to the massacre of the poor bees.

ESSEX BEE-KEEPERS' ASSOCIATION.

Annual Show.

The Annual Show of the Essex B.K.A. was held, in connexion with that of the Essex Agricultural Society, at Harlow, on June 14th and 15th, and was favoured with fine weather and excellent attendance on both days of the show. The arrangements for the Bee Department were made by Mr. F. H. Meggy, hon. secretary of the Association, who had prepared a syllabus showing the times at which 'talks' about bee-keeping would take place. The tent in which the exhibits were staged contained a collection of run honey, honey in comb, wax, and appliances used in the culture of bees. The number of entries, made in anticipation of being able to show this year's honey, was very satisfactory, most of the classes being well filled, but very little new honey was staged, and, in consequence, the B.B.K.A. medals were not awarded. There was no entry in the class for hives and appliances, but Mr. W. Debnam, expert of the Association, made an exhibit, not for competition. This department of the show was under the special patronage of Lady Selwin Ibbetson, who, with Sir Henry Selwin Ibbetson, gave 5*l.* 5*s.* towards the cottagers' prizes. Some beautiful exhibits of white-clover honey were made by Mr. Christie-Miller, and the 1892 honey exhibited by Mr. F. W. South was excellent in flavour, though not exhibited in first-rate condition. There were four exhibits in the 'new inventions' class, the first prize being won by Mr. J. M. Hooker, of Lewisham, with a hive and self-hiver combined, which he exhibited for the first time at this show. During the show an observatory bar-frame hive, stocked with live bees, was on exhibition, and representatives of the Association were present to answer the questions of those interested in bee-culture. The 'Talks about Bee-keeping' explained the whole subject from beginning to end, and on each occasion the tent was filled with a crowd, who were greatly delighted with the lecturettes, and who eagerly watched the fearless way in which the lecturers handled the bees. The 'talks' were given by the Rev. E. Davenport, of Stourport; Mr. Edmund Durrant, Chelmsford; Mr. C. R. Finch, Great Baddow; and Mr. F. H. Meggy, Chelmsford. Mr. W. Debnam attended to the staging, did most of the bee-driving, and rendered great assistance during the show. The judge (Mr. Jesse Garratt, of Meopham, Kent) held an examination for the British Bee-keepers' Association third-class certificate for practical bee-keeping, the manual part taking place in public in the bee-tent. Subjoined is the prize list:—

Class 110. Complete frame hive.—2nd, W. Debnam (Chelmsford).

Class 110*. Inexpensive hive for cottagers.—1st, W. Debnam.

Class 111. Pair section racks. — 2nd, W. Debnam.

Class 112. New inventions. — 1st, J. M. Hooker (Lewisham), hive and self-hiver comcombined; 2nd, W. J. Sheppard (Chingford).

Class 114. Twenty-five 1-lb. sections. Given by Mr. W. Fowler.—1st, W. Debnam.

Class 115. Twenty-five 1-lb. jars extracted honey. Given by Mr. W. Fowler.—1st, W. Christie-Miller; 2nd, W. Debnam.

Class 116. Collection comb and extracted honey, 12 to 20 lbs. Given by Colonel Lockwood.—1st, F. H. Brenes (Brentwood); 2nd, W. Christie-Miller.

Class 117. Four shallow frames filled with honey.—2nd, A. Mayell (Bradwell-on-Sea).

Class 118. Twelve 1-lb. sections. Given by Mr. Christie-Miller.—1st, W. Christie-Miller; 2nd, W. Debnam; 3rd, T. C. Godfrey (Chelmsford).

Class 119. Six 1-lb. sections.—1st, F. W. South (Pleshey); 2nd, C. M. Collins (Tillingham); 3rd, A. Mayell.

Class 120. Six 1-lb. sections 1892 honey.—1st, F. W. South; 2nd, W. Debnam; 3rd, W. Christie-Miller.

Class 121. Single section 1892 honey.—1st, F. W. South; 2nd, C. M. Collins; 3rd, W. Debnam.

Class 122. Twelve 1-lb. jars extracted honey. Given by Mr. Christie-Miller.—1st, W. Christie-Miller; 2nd, W. Debnam.

Class 123. Six 1-lb. jars extracted honey.—1st, F. H. Brenes; 2nd, C. M. Collins; 3rd, Mrs. T. Jackson.

Class 124. Twelve jars granulated honey.—1st, J. Winter (Kelvedon Hatch); 2nd, W. Debnam; 3rd, Mrs. T. Jackson.

Class 125. Beeswax, 2 to 3 lbs.—1st, W. Debnam; 2nd, W. Christie-Miller; 3rd, Mrs. T. Jackson.

Cottagers' Classes.

Class 126. Comb and run honey, 12 to 20 lbs.—1st, E.B.K.A. certificate and 10*s.*, A. Mayell; 2nd, 7*s.* 6*d.*, J. Winter; 3rd, 5*s.*, C. M. Collins.

Class 127. Section of 1892 comb honey.—1st, 5*s.*, C. M. Collins; 2nd, 3*s.*, H. Hale (Broomfield); 3rd, 2*s.*, J. Winter.

Class 128. Six sections comb honey.—1st, 7*s.* 6*d.*, J. Winter; 2nd, 5*s.*, A. Mayell; 3rd, 2*s.* 6*d.*, C. M. Collins.

Class 129. Six jars extracted honey.—1st, 7*s.* 6*d.*, A. Mayell; 2nd, 5*s.*, J. Winter; 3rd, 2*s.* 6*d.*, C. M. Collins.

Class 130. Beeswax, 2 to 3 lbs.—1st, 5*s.*, J. Winter; 2nd, 3*s.*, A. Mayell; 3rd, 2*s.*, C. M. Collins.

Offered by the Horticultural Department.

Class 133. Twelve sections 1892 comb honey.—1st, W. Debnam.

Class 134. Bottle of run honey,—1st, F. W. South; 2nd, W. Christie-Miller; 3rd, F. H. Brenes.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see* 1st *page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

TREATING FOUL BROOD.

[1053.] I should be much obliged for your valuable advice *re* foul brood, for it was not without some considerable suspicion, caused by my nose, that I wrote you last week for some Napthaline and Naphthol Beta, and I must thank you for your prompt attention. Since its receipt I have examined some twenty-eight hives, and have found two cases of unmistakeable foul brood, at which I am exceedingly grieved. There is no need to send you any sample of comb after the very plain description of it given so often in the *B. B. J.*, but I should like your advice as to the best course of treatment. One case is in my own apiary, the other in a hive belonging to a neighbour a quarter of a mile off. I am thankful it is where it is, as I shall have it under my own control, the neighbour being on my way to business, so I trust to be able soon to annihilate it.

The hive attacked in my own apiary was in beginning of February and up to second week in May my strongest stock. There were seven seams of bees in February. It went into winter quarters very strong with natural stores, and had so much that it is the only hive I did not give any candy to, and have never fed it this year it all, only uncapped some stores in the back combs. It was transferred into a *clean* hive in April, and there was then plenty of healthy brood on four combs out of nine. I have only opened the hive once since, in the beginning of May, and it was *then* all right. Last Saturday, after receipt of naphthaline, I examined it thoroughly about seven p.m., after all my other bees had gone in, and found it badly affected on several combs. The stock was formed of two nuclei joined, one of which had lost its queen; the other had a young queen, hatched in July last. I have put the prescribed amount of naphthaline on the floor-board, and made some syrup, medicating it with Naphthol Beta, as directed in *B. B. J.*, September 10, 1891.

Now, when honey is coming in, bees, as you know, are not very keen in taking syrup of any sort, and I could not, as directed by the man selling the flea-powder, 'take each bee by the back of his neck and give it a dose,' but was determined that each and every one should have its quantum into its *inside;* so I sprayed each comb with the bees on on both sides well, and also the sides and bottom of hive (this course I determined on after reading Dr. Lortet's letter in *B. B. J.*, *re* the microbes being in the intestinal canal), and shut the hive up, putting a little powdered naphthaline at the back of the dummy and on top of the quilt, leaving them to lick one another clean. Needless to say I have also given each other hive some naphthaline on the floor-board. I put a feeding-bottle on the top, but I don't think they have touched it, and I should be glad to have your opinion *re* the spraying with the syrup, whether I should do it every evening, or how often? There is a lot of healthy sealed brood and immature brood and eggs, and I have not removed any of the combs. On a recent afternoon that hive appeared the strongest of the lot. They seemed to have livened up wonderfully, and were fanning and working vigorously, and I could smell the naphthaline a yard away, and to-day the same. If you think it advisable I will remove all the combs and brush the bees off into another *clean* hive. I underline clean as I pile all my spare bee-gear in the autumn and brimstone them, besides washing with carbolised water and repainting outside. My neighbour's is not so bad as mine, and it is also a strong stock with plenty of new honey in, but here and there throughout the hive a bad cell or two. Of course I have taken precautions, keeping a separate suit and veil for manipulating *them*, and have also brimstoned all my veils, and wash my hands with carbolic acid and water, as hot as I can bear it.

Now, you have often said the bees do not mind the naphthaline. I put two balls in each hive, having first cut them in halves. One hive being supered I powdered *most* of one ball and blew it in with a tube at the entrance, but put one half-ball in whole, pushing it well back to about the centre of the hive. This afternoon they had brought it out on to the floor-board outside. I call that a very straight tip on their part, so did not put it back.

It has been a glorious day here all to-day; yesterday we had a thunderstorm or two with heavy rains, with hot sun between times. I enclose stamped envelope for the favour of your reply, and I venture to think you may rest assured that your advice will be carefully carried out and reported on, as this foul-brood business requires very careful attention, and it will be a boon if some system of treatment can be devised that will be thoroughly effectual in ridding us of it. Where it has come from here I cannot say—wish I knew; they were healthy enough last autumn.—A READER, *Lincolnshire, June 6th.*

[Your proceedings so far have been all that could be desired, and, but for the fact of the stock being 'badly affected on several combs,' we should have been inclined to try curative measures without removing the combs. As it is, we advise removal of the worst combs, substituting sheets of

foundation for those taken away. Give up feeding by bottle, and use the naphthalised syrup freely by pouring some of it between the combs at intervals of a day or two. In a few days you will have brood in the newly drawn-out combs, and can ascertain if the disease still holds sway. Carefully note the appearance of the larvæ before it is sealed over, and watch how the capping appears afterwards. We are not without hope that the continued effects of medicated syrup and newly gathered honey (which in itself helps to cure the disease) may bring the bees round. A few days will decide the point, and if appearances are unfavourable the bees should be promptly removed from the combs and put into a clean hive on full sheets of foundation. They will be more inclined to take syrup under these altered conditions, and may be fed as liberally as they will take it. Our personal knowledge of your care in taking proper precautions makes us very hopeful of your curing the stock.—EDS.]

IODIDE OF POTASSIUM FOR BEE-STINGS.

[1054.] I have never seen iodide of potassium mentioned as a sting-cure in your columns, but having heard of its use by a bee-keeper of forty years' standing, whose verdict was 'relief and cure instantaneous,' I tried it. I have only used it in three cases, in all of which it was successful. A juvenile cousin, aged seven, was stung on the hand, and the cure was so effective that the sting only 'tickled' next day, as he expressed it, though he looked as if the 'tickling' was too much for him at the time. In my own case the relief was instantaneous, and no swelling ensued the first time, when the remedy was applied at once, and very little the second time, when applied about five minutes after. The method of application is simply to hold a crystal of the iodide to the wound. Cost, 3*d.* per drachm. Must be kept dry. One crystal can be used theoretically *ad infinitum*.—H. E. W., *Highbury, N., May 30th.*

LECTURERS' NOTES.

[1055.] Referring to 1022 (p. 195), I give my plan of proceeding at County Council lectures. Only being able to give one lecture at one place, you cannot choose any particular subject, but must comprehend the whole. I have not attempted to write a lecture, and notes I did not make, but began by giving a very brief history of bee-keeping, and then started with work of the year, dealing with each subject as it came naturally in order, commencing with clearing snow and entrances, candy feeding (where required), spring stimulating, supering skeps, showing how to place sections on skeps, bar-frame hives, swarming (artificial and natural), non-swarming, re-queening, hiving, extracting, straining, ripening, bottling, packing bottles (showing different methods), fixing in sections, cleaning, glazing, and packing sections (laying great stress on cleanliness both in extracted and comb honey), marketing, autumn feeding, winter packing, and, if time permit, I give a short account of the natural history and physiology of the bee and fertilisation of plants, and conclude by inviting questions and exhibiting, or rather allow inspection of, different appliances. The whole takes about two hours, but of course it can be extended to any length. —EXPERT, N.B.K.A.

EXPERTS' VISITS.

[1056.] I have waited in expectation that something would have been said bearing upon what, as it appears to me, is an insinuation that visiting experts have something to do with the spread of the foul-brood pest. Your correspondent, Mr. Schofield (1033, p. 213), is, I have reason to believe, a worker 'inside of the organization,' and in that position is doubtless in possession of information that warrants his opinion that the visiting of members of Bee-keepers' Associations by the experts 'is a mistake, and one that has been a source of great danger and mischief in the past.' I do not think bee-keepers need take alarm, but, at the same time, it is highly satisfactory to learn that the B. B. K. A. have the subject under consideration, and I feel sure the results of their deliberations are awaited with interest. Until the contrary is shown to hold good, it is only fair for us to act upon the supposition that experts are, and have been in the past, extremely careful in this foul-brood matter, and unless the contagion is of so insidious a nature as to make experts helpless against infection when dealing with cases of disease, whatever the risks may be of spreading it, I hardly think mischief has been done—at any rate, not in the way suggested.

The office of expert enjoins caution, and as most experts have bees of their own to care for they have every reason to be circumspect; but should the impression obtain footing that experts carry pestilence about with them, their visits will in that case come to be regarded with suspicion at all times.

Mr. Schofield's advice to Associations to abandon free visiting of members by the experts is a question of policy which it may be improper for me to criticise; but, whatever connexion they may have with foul brood, it is, as I understand, an open secret that they have much to do with subscriptions, and if so, the proposal to 'make it understood that a free visit from the expert is not one of the advantages of membership,' is one which committees are likely to take time to consider before adopting. But, apart from such considerations, I do not see how a bee-keeper can derive much advantage from one, or perhaps two at most, visits of the expert in a year. At other times, perhaps, when skilled help would be of the most advantage, he is forced to his own resources, and if he is not equal to the occasion bee-keeping with him is a failure. My own idea of the matter is that the services of the expert should

only be retained for cases of special interest, and to act at shows and lectures. I would not, of course, debar members from consulting him when they thought fit, but self-reliance ought to be the motto of every bee-keeper, and a principle which Associations should inculcate. —A. DONBAVAND, *Whitby Heath, Chester, June 13th.*

ORNAMENTAL BEE-DESIGNS FOR EXHIBITION AT SHOWS.

[1057.] May I ask for a little advice as to the working of a hive or two, so as to make an interesting exhibit (not for competition) at our show on July 22nd and 23rd? When at the Yorkshire Show, held at Harrogate a year or two ago, I was attracted in the bee department by the name of the Yorkshire B.K.A., the letters of which were formed of drawn-out comb. Would you kindly let me know whether the letters are cut from foundation and fastened in the hive, or from drawn-out combs? My great object is to impress upon the minds of visitors the name of our Association.—JAMES BROWN, *Hon. Secretary Bristol District B.K.A.*

[A full description of the method of making honey-comb designs appeared in the *B.J.* for May 12th, 1887, and also in our monthly, the *Record*, for April, 1890. A copy of either will be sent for two stamps.—EDS.]

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

[1058.] I have no desire to occupy your columns with controversial matter, but ask to be allowed space for a word in reply to your correspondent (1040, p. 220), who refers to the above Association, of which I am a member. Now, I am not in any way going to encourage our officers in any slothfulness they may be guilty of; but I consider the wisest and most manly course for your correspondent to have taken would have been to communicate with the Secretary, in order to have any real or supposed grievance laid before the committee in proper form. We must remember that 'two blacks will not make one white.' There are quite enough outsiders ready to throw cold water upon the subject of apiculture as promoted by Associations, without members making them a target for adverse criticism. Members should take an interest in their Association, and lend a helping hand to improve its working, as well as to remove any real shortcomings in the management, instead of complaining through the press, and especially through *B.J.*, as the recognised organ of all Bee Associations, because complaints so made reach a great number of bee-keepers, and may prevent some from joining. I believe the S. B. K. A. has done much good in spreading the knowledge of apiculture, and have no doubt will yet be a great power, especially if every member will put his shoulder to the wheel.—A. HAMER, *District Secretary, Dolau, Radnorshire.*

BEES CARRYING IN HONEY AND POLLEN.

[1059.] Having moved two of my hives during the winter to a wooden building close to my house, I can watch the bees through a glass coming in and going out, and though I am not quite certain, I think the old bees mostly bring in the honey, and the young ones the pollen. It was certainly so during the colder weather we have had, but now many of the younger bees are beginning to be middle-aged, and the difference is not so marked. A young bee has a good deal of down on its body, and may be called a 'brown bee.' The old bees have less down, and, when full of honey, the body is swollen, black and bright, and looks almost as if honey would spurt out if the bee were pricked with a pin. A bee, loaded with honey, trails its body along the floor, while an empty bee, or one bringing in pollen only, scarcely touches the floor, and even then only with the tip of its tail. I feel very sure that an old black bee will not be seen bringing in pollen. I send you a rough drawing, showing the difference. We all know that a bee, full of honey, does not sting in the same way as an empty bee, and it is possible the change of shape may render it more difficult to put out the sting.

I am glad to hear that Mr. Cowan has returned, all the better for his sojourn in Africa.—F. M'C., *Ecclefechan, N.B.*

[Our own observations incline us to believe that young bees also bring in honey, and that both young and old bees frequently bring in honey and pollen at the same time. We agree with our correspondent as to the reason bees laden with honey do not sting.—EDS.]

Queries and Replies.

[567.] *Renewing Queens.*—1. I have a hive of bees which wintered very well, and this spring were fairly strong, but they have very little sealed brood, and the little they have is very much scattered over five frames. Do you think the queen is old and useless? 2. Ought I to get a new queen, or should I kill the present one and let the bees feed up another? They have a lot of sealed honey in the brood chamber, but there are two frames empty, so the queen has plenty of room to lay her eggs. 3. Must I feed them at all, or uncap some of the honey? They have not been fed at all this spring.—AMATEUR, *Highgate.*

REPLY.—1. One of two things is certain—either the queen is old and worn out, or the stock is foul-broody; most probably the former. If, however, you find any of the sealed brood dead in the cells, cut out a piece and send it on to us for inspection. 2. It will scarcely be worth while investing in a fertile queen, as the season is too far advanced for her progeny to do much in honey-gathering. On this ground, we should just destroy the old queen and let

the bees rear another, or give them a queen-cell after they are seen to be rearing queens from the eggs of the old one. 3. Bees require no feeding in so good a season as this.

[568.] *Building up Stocks from Driven Bees.*—1. If I purchase driven bees early in September, and place them on frames of foundation, will they, by stimulative feeding, draw out the comb sufficiently in time to store and seal the necessary food to carry them through the winter? 2. Would it be any great advantage to give them three or four worked combs alternated with foundation? 3. Should the syrup be, as a preventive, medicated with Naphthol Beta? 4. How many pounds of driven bees would you advise for each hive? I have the *Guide-book*, also *Modern Bee-keeping* and last year's *B.B.J.*, but cannot find precise information as to above, hence my troubling you.—APIS, *Croydon, June 8th.*

REPLY.—1. Yes, it can be done, and sometimes the plan succeeds very well; but we none the less dislike it as a method of forming stocks, and certainly would not adopt it unless we had ready-built combs on hand to winter the bees on. Besides, unless the driven bees are perfectly healthy, they would be dear at a gift. 2. Alternate combs and sheets of foundation frequently work out badly under the conditions named. The bees lengthen out the cells of the built combs sometimes before they seal the food over, so that sheets of foundation between are almost useless as brood combs. 3. All food given to bees should be medicated as a preventive against disease. 4. At least four pounds; six is better.

[569.] *Uniting Bees.*—I have a queenless stock in a frame hive, and standing next to it a second swarm in a skep now full of new combs. Which will be the better plan of the following:—1. To put the skep over the queenless frame hive, and if so, now or later on? 2. Drive bees and transfer combs to frames? If the former, how must I prevent the two lots from fighting and killing or balling queen?—*Elm Grove, June 14th.*

REPLY.—If you adopt the first course, the bees in frame hive will want sprinkling with peppermint-scented syrup before reuniting, and the bees should be separated for twenty-four hours by perforated zinc (not queen-excluder). Under the conditions referred to we should prefer the following plan:—Shake the queenless bees from their combs, and allow them to run into an empty skep. Then, in the evening, about 8 or 9 p.m., make a hole in the soil, as is done when skeps of bees are 'brimstoned.' Spread a tablecloth in this hole, and, allowing it to extend outside, put the skep with driven bees over the hole, and, by a sharp rap with both hands on its crown, the bees will drop in a heap in the hole; lift the skep off, and pour over the bees a cupful of peppermint-scented syrup. Immediately set the other skep and bees over them, and let them ascend. Take care they have just a little air, but don't allow any of the bees to escape round the sides. In half an hour or so lift the bees on to their stand, and, if the job has been well done, not half a dozen bees will be killed.

[570.] *Combs Built Crooked.*—I am a young beginner in bee-keeping and shall be glad of your advice on the following. On May 24th I bought a strong stock of bees in bar-frame hive, and on the 25th a friend who saw them advised a case of sections being put on; this was got ready. When the quilts were taken off he thought a couple of frames should be taken out as there was so much honey, but on this being attempted the combs broke and a portion was left in hive; this could not be taken out as the bees were clustered around and would have got killed. Only one fresh frame could be put in, and as all the other frames are in such a jumble that it is impossible to lift them out without destroying a lot of bees, I should like to put them into a fresh hive. When and how can this be done? On May 30th I got a very strong swarm; these are working well. I may say that the bees are filling up the sections put on on May 25th.—A. T. STACEY, *Crewkerne, June 14th.*

REPLY.—The bees had best be left as they are till the close of the season, when all surplus has been removed and there will be little brood or honey in the way. The combs may then be removed and fixed in the frames in proper position before feeding up for winter.

[571.] *Brood in Sections.*—I have three hives which were supered a fortnight ago; two are doing well, and fast filling the sections, but the third has drone comb with brood mixed up with the stored honey in sections. What would you advise doing under these circumstances, since the hives are very strong, but have not yet swarmed?—P. BIRKETT RIGG, *Yorks., June 10th.*

REPLY.—Remove the sections and cut out the drone brood, then replace.

[572.] *Setting Skeps above Frame Hives.*—Six weeks ago I found my best hive queenless. I put a straw hive, with a queen in it, on top of frames, and since that the hive has done splendidly; but the question now is, how best to get the straw hive away? I have twice taken it off and examined the bars, in which the queen has deposited many eggs, but no queen could I see, the probability being that her headquarters are in the straw hive. Do you advise me to drum her out? Unless something of the kind is done, I cannot get section crate on, and I find the clover beginning to come out.—J. C., *Galashiels, N.B., June 9th.*

REPLY.—Now that the queen has established herself in the frame hive below, a queen-excluder may be safely put in between skep and lower hive; do this at once. Leave the skep on till the honey-flow begins, in order that as much as possible of the brood may hatch out. When the 'honey-time' comes, remove skep, and set on the rack of sections, or, better still, a shallow-frame box, because of it allowing better facilities for getting the sealed brood hatched

(which you will doubtless find in combs of the skep). This done, drive the bees from the skep, and allow them to run into the hive; or, if a shallow-frame box is used, fit the frames with full sheets of foundation beforehand, and, after allowing the driven bees to run into it, set box and bees on the frame hive at once. Then take the skep into a warm room indoors, cut out any pieces of comb containing sealed brood, and fix these pieces up in a box with an oblong hole in bottom to admit the bees. Set this brood above the shallow-frame box, when the bees will enter and cover the brood till hatched out.

[573]. Many thanks for your reply to my last queries. Referring to your reply to 538, question 5 (p. 198), I have no wish to increase the number of my stocks, but as I am only a novice in bee-keeping, I hardly expect to prevent it entirely. As you so kindly promise me space for reply however, I enclose the following particulars:—1. Two of my hives are at present furnished—one with sections on, the other with a super containing nine shallow frames. How can I best prevent these from swarming, or how should I treat them if they do so? 2. Should a super be filled with frames when first put on, or should it contain only a limited number? 3. I have queen-excluder over two frames along the sides of the hives, the centre of hives being covered for warmth; is this the best arrangement? 4. For some time past I have observed occasionally the bees fighting at the entrance of one of my hives, and yesterday I observed perhaps a score of dead bees on the ground. They all have plenty of stores, and they stand in a row from three to four feet apart. Are they too close together, or what do you think is the cause of the fighting? It is one of the centre hives, and the others are quite peaceful.—INQUIRER, *Launceston*.

REPLY.—1. As the honey season has not long begun, we should as a first step add a second surplus chamber to each hive, supposing that the bees are at present working well in those already on. If a swarm comes off, refer to 'Useful Hints' for directions how to deal with it. 2. At this time it should have the full number of frames. 3. We do not think so, though some bee-keepers so advise: we prefer an excluder covering all the frames. 4. Six feet apart is close enough for hives to stand. The fighting may arise from so many causes, it is quite impossible for us to say why it occurs.

[574.] *Bees building superfluous Drone Comb.*—Late last year I purchased a lot of driven bees, and put them on eight frames of foundation, which they have now filled out, so last week I added two more frames with starters of foundation in and they are working on same. But I find that they are making drone cells on the foundation at the top of the frames on the first lot, which had full sheets of foundation. 1. Is not this unusual, and especially as they are on so few frames? 2. I have stopped feeding them, and put a super on top ready; is this too early? 3. The Express Dairy Company are selling little sections of honey about a quarter of a pound in weight. Can you tell me where I can procure them with crates ready to put on? 4. I think it would be a very good idea if each week you were to publish directions what to do and how to do it with the bees as the season goes on.—D. M., *Sydenham Hill, June 2nd.*

REPLY.—1. Bees should always have full sheets of foundation in early summer when building additional combs in their hives; otherwise they will always build superfluous drone comb at this season. 2. Refer to 'Useful Hints' in our issue for May 26th, for full information on giving surplus chambers. 3. We know of no dealer who stocks sections of that size. 4. The difficulty in doing as you suggest is that what is seasonable in one part of the country is quite out of date in another, and you must bear in mind the *B. J.* circulates from John o' Groats to Land's End.

[575.] *The Right to Stray Swarms.*—Having lately begun bee-keeping, I have taken in your *Journal*, and am desirous of the following information:—1. If my bees swarm during my absence from home, and settle on another man's premises—a neighbour of mine having seen their departure from my hive—can I legally claim them? 2. Can I 'ring' my swarm on any other ground than my own—is there any limit? 3. A swarm settled on a man's fence, of which he was informed. He, not knowing anything of bees, said the informer could have them; later in the day, they came out of the hive and settled on another man's premises. I took them home at sundown, and the next day they did the same thing again. The last time they settled in an empty box-hive. They were 'rung' each time by the informer, and since are doing well. The next day an owner appears on the scene and says he has lost a swarm of bees. Who do they belong to?—who has a legal right to them?—A YOUNG BEGINNER, *Uxbridge, June 1st.*

REPLY.—1. If the bees are not lost sight of from the time they are seen to issue from the hive till they settle, the owner has a legal right to take them when settled or 'clustered.' 2. We do not know exactly what is meant by this query. You can 'ring' your swarm if it is considered necessary to do so to establish your ownership, but it is a silly and useless practice. Watch the bees and leave out the 'ringing,' which does no good. 3. It would require a trained legal mind to solve out the legal rights of the different individuals in so *mixed up* a case as the one detailed. We should say the man the bees took themselves off to last has the best right to them.

[576.] *Unfertile Queen.*—A dispute having arisen between two bee-keepers as to whether the enclosed queen has been *fertilised* or not, will you kindly decide the question for us?—JOHN ARMSTRONG, *Haltwhistle, June 10th.*

REPLY.—Queen sent has certainly not been fertilised, the spermatheca being quite transparent.

Bee Shows to Come.

June 20th to 24th. — Royal Agricultural Society at Warwick.

July 13th to 15th.—Lincolnshire Agricultural Society, at Lincoln. 24*l.* in prizes for hives and honey. Entries close July 1st. For schedules, apply Stephen Upton, Secretary, St. Benedict's Square, Lincoln.

July 13th.—Kent B.K.A. County Show at Hawkhurst, Kent: bees, honey, and appliances, in connexion with Hawkhurst Flower Show Society. Entries close July 9th. For schedules apply J. Garratt, Hon. Secretary Meopham, Kent.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

July 28th to August 1st.—Lancashire and Cheshire B. K. A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool. For schedules apply to the Secretary, William Wrennall, 9 Harrington Street, Liverpool. Entries close July 1st.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. A. Crisp (Mannington).—The box sent contains the larvæ of the wax-moth. These pests never get a foothold in a strong stock, and only commit their ravages when the bees are weak.

J. B.—Unless you are a microscopist, it will not assist your studies much to have a sample of foul-broody comb sent, and you must not forget how dangerous a thing it is to have such material about a bee-keeper who is frequently handling bees. We will send a sample, much as we dislike to do so, on receipt of a post-card; but beg of you to take every precaution against it causing mischief in your hands.

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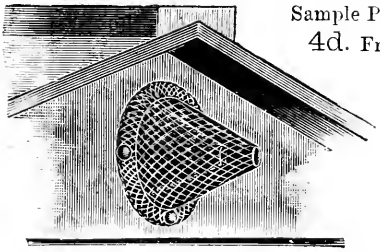

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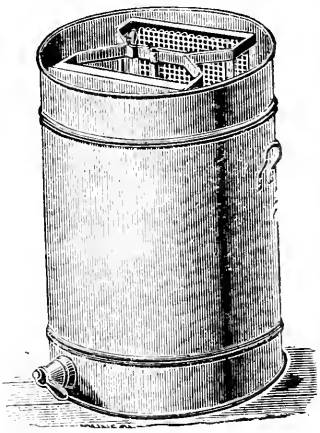

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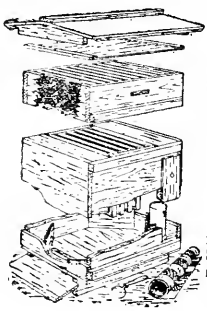

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

NORTH AFRICAN BEES—WHAT ARE 'PUNICS?'

(*Continued from p.* 234.)

On our arrival in Tunis, before going to visit an old correspondent of the *B.B.J.*, who is a large proprietor, cultivating 9000 acres of land, as well as being a bee-keeper, we engaged a guide and interpreter, and through him made our investigations. After three days stay in Tunis, we left our guide with instructions to pursue his investigations until our return, and went on to stay with our friend at a distance of some 46 kilometres from Tunis, on an undulating plateau of the Tell, which is very fertile, and where abundance of rosemary was found in all directions. Although the Railway station Medjez-el-Bab was only 16 kilometres (nearly 10 miles) from our friend's house, we preferred driving, and hired a carriage and four horses to take us to our destination.

Here we spent an enjoyable week in searching the neighbourhood for bees, inspecting and studying those in the apiary. Our readers, we hope, will not be surprised to hear that here we were on the very spot from whence Tunisian bees had been sent to England, and the proprietor was not a little astonished to hear that his bees had been called *Punics* by the importer. We very soon found out all about them, and that instead of there being such a difficulty in getting them, there was none at all. There was no guesswork about what they would cost, but it would never do for bee-keepers to know this, or they would not give the '5*l.* 5*s.* for them in this country for what I have to spare.'

Now, the facts are these. Without going into full details at present, we will just mention that the importer found out our friend's address and wished him to send him some queens. Our friend, to oblige him, undertook to send fifty at 8*s.* each, delivered post free in Sheffield. These were sent, but for very good reasons the supply was stopped, and no queens have been sent by him for more than twelve months, and none will be sent in future, as our friend does not think the business worth the trouble. This is how they were obtained. The Arabs surrounding the property all keep a few hives, and the man in charge of the apiary had no difficulty in purchasing of them what was wanted. The queens were then put in queen-cages and sent by post in parcels, the postage for twelve costing 5 fr. 25 centimes (4*s.* 2*d.*). The cost to the importer has not exceeded 8*s.*, so it is no wonder that he 'dare not mention the cost for fear of being thought a crank lunatic' (see p. 233 of last issue). There was no carrying on backs of camels or heads of negro natives, and all this story appears to be a myth.

There is a good deal more we could say, but we will reserve it until the action for libel threatened by Mr. Hewitt in December last is brought against us. Mr. Hewitt's solicitor stated, in a letter to our solicitor on the 21st December last, that he would instruct his London agents to proceed, and although our solicitor had written to say that he was prepared to accept service of a writ in our behalf, up to the present we have waited in vain for such action to be commenced, and for the opportunity of cross-examining the above-mentioned gentleman in the witness-box.

We would also call our readers' attention to p. 32, *B.B.J.* for January 28th last, where we allude to an article in *Journal of Horticulture*, wherein Dr. Hogg is good enough to tell his readers that he has asked 'A H.B.K.' to allow him to publish some evidence that he believes his *protégé* can supply. Here are the editor's own words:—'He informs us that he is taking action against Messrs. Cowan and Carr for libel, and that it would be best to produce the evidence in court, along with the other evidence.' We then gave Mr. Hewitt to understand that, in the interests of bee-keepers and bee-keeping, we intended to defend any action that he chose to bring against us. We are prepared to do so still, and will reserve *our* other evidence for the threatened action.

Now, how have these fifty queens been disposed of? In Mr. Hewitt's own statement in *J. of H.* (p. 167, August 20, 1891), we find it written that there were 'eight which arrived dead in all. There was also a loss of two before introduction, and five have failed to lay, including one sent to America. In addition to these losses, there are large numbers that do not come up to my standard, more than half, of what a breeding queen should be, and which I should not think of either selling or breeding from.' This makes, after deducting the fifteen dead, lost, and which failed to lay, thirty-five, more than half of which the importer tells us he did not consider good enough either to sell or breed from. Is it too much to say that this does

not leave more than seventeen queens, over which all this fuss has been made? *Parturiunt montes, nascetur ridiculus mus.* We have yet to see a stock in this country headed by an imported Tunisian queen, or to hear of any of our correspondents having such a one.

Now, as regards those bees that were sent over to England. The closest investigation showed that they were just the ordinary Tunisian bees, identical with those of Algeria and Morocco. The most careful inquiries were made, but no other bees were found. We need hardly say that no such race as 'Punic' was found, and no one that we came across knew of any other race of bees but the ordinary ones. The Regency of Tunis is not large, and there was no more difficulty in getting information about persons there than there is in Sheffield. We visited Carthage, and saw all that there was to be seen, but found none of the so-called Punic bees there.

(*Our limited space compels us to defer the conclusion of the above till next week.*)

ROYAL AGRICULTURAL SOCIETY'S SHOW AT WARWICK.

The Bee Department.

The fifty-third exhibition of the premier Agricultural Society of the kingdom was opened at Warwick on Saturday, the 18th inst., and, as usual, closed seven days later, on Friday, the 24th. The authorities of the 'Royal' would appear to make a special point of insisting on a good location for their annual gathering, for in such shows as we have so far visited our first thought has generally been one of admiration for the beautiful surroundings outside the showyard, and the adaptability of everything within the enclosure for the purpose of the exhibition. No doubt the offer of the Earl of Warwick to place the noble park surrounding his historic ancestral home at the disposal of the Council as a site for the showyard had some influence in the selection of Warwick for the exhibition. And it need not be wondered at, for a finer approach than that of the Banbury Road, fringed on both sides with fine trees, could not well be. Viewed from the enclosure, the country around was beautiful to look at. Looking out from the bee department of the show to the beautifully wooded rising ground beyond, with Warwick Castle and the picturesque bridge crossing the river in the near distance, it formed a picture which for natural beauty could not be easily surpassed, and in the lovely weather prevailing on all days of the show, except Thursday, was thoroughly enjoyed by the visitors.

The Prince of Wales, his son, the Duke of York, Prince Christian, and other distinguished visitors, attended the show on several days during its continuance, and had the rare pleasure to them of being able to come and go quietly, and see what they wished to see without any of the too frequent crowding and following we often see on such occasions. As we have said, fine weather was the rule, but it was much to be regretted that the first popular, or 'shilling day' (Thursday), brought with it a perfect downpour of rain, lasting from early morning till late in the day, and sadly spoiling the pleasure of those travelling by excursion trains from long distances. But for this bad day the total attendance would, no doubt, have been one of the highest on record, the attendance on the first three days of the week being very good indeed.

Much, however, as we might desire to write on the Warwick show, its enjoyments and its lessons, space compels us to 'get on,' and come to the particular part in which readers of the *B. J.* feel most interest. The bee department was very favourably located. Close to the principal horse-ring, wherein was erected the grand stand and where the parade of prize animals took place, it looked finer as we thought, from its commanding position, than any previous bee-display had ever done. It was exceedingly well arranged, and the flowers kindly sent in response to the appeal of the Secretary beautified and brightened up the whole, making a pretty effect as viewed from the horse-ring. The bee-tent was fitted up close by, wherein Mr. Green lectured on bee-keeping, and manipulated the bees at intervals each day to interested audiences.

The Exhibits.

As usual, the honey entries were more numerous than the exhibits staged; but the classes for hives were well filled and represented, few absentees being noticed. The entries for hives and honey reached the respectable total of 154 (divided, as before, into fifteen classes), as against 143 last year.

In Class 282, for *Collections of Hives and Appliances* (five entries), Messrs. Meadows and Redshaw were very even in competing for the first prize of 5*l.*, both collections of goods being 'up to date,' and excellent of their kind. It was apparently only a question of 'points,' Mr. Meadows carrying off first honours in the 'other distinct articles not specified' portion of the schedule. Mr. Redshaw, however, made a good second for the lesser prize of 2*l.* 10*s.*

Class 283. *For the Best Observatory Hive stocked with Bees and Queen.*—Whether the change in the wording of the schedule had the effect of diminishing the exhibits in this class or not we cannot say; but if it had, the result is, to say the least, unfortunate, seeing that one of the most interesting departments of the show was shorn of nearly all its attractiveness by reason of there being but a single exhibit in the class, as against seven last year. The Committee of the B. B. K. A. would, we think, do well to allow as much latitude as possible to exhibitors in this class, or, at least, impose no more restrictions than are absolutely necessary, and leave the question of merit as far as possible to the judges. Every one wants to see plenty of observatory hives with living bees at our shows. They are an attraction, and a never-

ending source of interest to visitors; therefore we hope that every encouragement will be offered to induce exhibitors to show in this class, and to avoid a recurrence of what happened at Warwick—viz., a 'Royal' show with but a single entry made and one exhibit staged in one of the most interesting classes of the show, so far as visitors to the bee department are concerned.

Class 284. *For the Best and Most Complete Frame Hive for General Use* (13 entries).—This was a very good class indeed, all the entries except one being staged, and most of the hives showing superior workmanship and a thorough knowledge of the important requirements constituting a good article. The first prize was awarded to Mr. C. Redshaw for an exceedingly well-made hive with outer case. It included body-box, with ten frames and two dummies, made close-fitting by flexible end-pieces of webbing, a box of shallow frames, and a very perfect form of section box with hanging frames. There were also included two lifts for raising the roof when surplus boxes are on, and an 'eke' for giving space below frames. The form of roof pleased us very much, the ridge-piece and sides being tight against wet, yet not heavy or clumsy to handle. This manufacturer seems never to tire of developing all the little 'dodges' by which shallow-frame boxes may be adapted for section cases, and *vice versâ*, and, were it not that the various parts are so accurately cut and really *will* interchange with each other, it might be possible to carry this 'adapting' too far, but it is not easy to withhold approval when an article will effectively accomplish what is claimed for it. The second prize in this class went to Messrs. George Neighbour & Sons for a hive similar to that which took first last year at Doncaster. Both first and second prize exhibits were constructed on the same lines, and were of equal price (24*s.*)—indeed, they only differed in some of the smaller details. Mr. Redshaw also got third prize for a good hive of different type, having broad-shouldered frames; and a high commend was given to Messrs. George Neighbour & Sons for a novelty in the shape of a very ingeniously constructed hive called 'Hooker's Hive and Self-hiver Combined.' Mr. Hooker's ideas 'are well thought out, and show the experienced bee-keeper at all points, but no doubt it was felt by the judges that the merits or otherwise of the hive could be better adjudicated on after a season's trial. Some very good and well-made hives were also included among the unplaced ones.

Class 285. *For the most Complete and Inexpensive Hive for Cottagers' Use* (13 entries).—Messrs. Neighbour took first here with a very useful hive. The price (15*s.*) was a little over what a cottager's hive should be, but there was full value for the money in shape of a well-made body-box with ten frames, and two shallow-frame boxes, each convertible into covers for section rack; then the upper part of the ift, or 'riser,' was made so that by inverting it slipped down over the body-box, forming a double wall or outer case for winter. It also has legs and stand. The second prize was given to Mr. Redshaw for a hive (price 10*s.* 6*d.*) with ten broad-shouldered frames in body-box, and rack of twenty-one sections. The parts slide on from the rear, and altogether it forms a good, useful hive at the price. Mr. Redshaw also got third for a neat little hive (price 14*s.*), the various parts of which were bound or tied together by means of 'Van Duesen clamps' for security in moving to the heather. It has a brood-chamber of nine frames, one shallow-frame box, and a section box with hanging frames. The hive is apparently adapted for heather districts. So many other good hives were shown in this class that more prizes could well have been bestowed had the sum at the disposal of the judges been less limited, and so high commends were given to Messrs. Green & Son for a good hive (12*s.* 6*d.*) tiered up in telescopic fashion; to Mr. W. P. Meadows for a very complete hive, but, again, rather high-priced article for a cottager (15*s.* 6*d.*). It really tells against otherwise good exhibits when they include so much by way of 'extras' as to make the cost—though reasonable enough for what is given—higher than a cottager could be expected to give for a hive. Mr. Redshaw also got a H.C. for a good hive priced so low as 9*s.*

Class 286. *For the Best Honey Extractors* (six entries).—Mr. Meadows again took first and second prizes in this class: first for a 'Raynor' taking four frames and fitted with cog-gearing, similar to that used for tricycles, and priced at 2*l.* 10*s.* For ourselves, we confess to a preference for a machine for general use costing less than this sum, believing that the second prize extractor at 1*l.* 1*s.* is good enough for any but a very large apiary, and also that the advantage of 'cog-gearing' is scarcely worth the money it costs. Mr. Lowth's improved Unique extractor, price 1*l.* 5*s.*, was well worth the high commend it received. A no-doubt well-meant but rather amateurish attempt was made in this class to improve on the ordinary form, by having a 'knife-heater' in shape of a tin cylinder for hot water—heated by a spirit lamp—affixed to the side of the extractor, and making one-half of the cover adaptable as an uncapping tray; but it need hardly be said that such an arrangement was more fanciful than practical, and that few bee-keepers would tolerate an arrangement so likely to be in the way when extracting was being done.

Class 287. *For the Best Pair of Section Racks fitted for use and interchangeable* (nine entries).—Messrs. Neighbour got first in this class for the same section box with hanging frames as was shown by them at Doncaster last year, and Mr. Redshaw took second with one of similar type, Messrs. Hutchings Bros. being awarded third for a pair of racks of the older form, and Mr. Redshaw receiving a H.C. for a pair of the same type.

(*To be continued.*)

SCOTTISH BEE-KEEPERS' ASSOCIATION.

The summer show of the above Association is to be held at Inverness from July 26th to 29th, in connexion with the annual exhibition of the Highland and Agricultural Society. The classification will be very similar to that at the first show of the S.B.K.A. held at Stirling last July, and it is anticipated that it will be the means of gaining a considerable increase of members in the North of Scotland, where many enthusiastic apiarians reside. The distance from the best honey-producing districts of the South of Scotland, as well as England, should not, with good railway facilities, be any drawback to exhibitors of appliances or bee-products.

The membership of the S. B. K. A. steadily increases, and the recently established lending library of books connected with bees and bee-keeping is in good request among the members in all parts of Scotland.

Intending exhibitors should apply for a prize list of the forthcoming show at Inverness to John Wishart, Secretary, 5 Market Place, Melrose.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements.)*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL BROOD AND EXPERTS.

[1060.] Could nothing be done to stir up the Committee of the B. B. K. A., and hasten their deliberations just a *little?* I observe that Mr. Schofield (1033, p. 213) has been asking what precautions experts and others ought to take after visiting infected hives. I asked this, I believe, last autumn, but cannot at present find the reply, but believe it was to the effect that the measures to be taken were *under* the consideration of the Committee. Surely it is time they let us have the benefit of so much consideration?—as, at present, we may leave undone just those things we ought to have done through want of such experience as the Committee may possess, and hence be blamed for negligence. Some experts are, as a Hon. Sec. wrote me the other day, like walking carbolic acid bottles; others are redolent of naphthaline or eucalyptus; clothes are quarantined till sulphur fumes set them at liberty to be worn with a free conscience, and the bee-keeper visited sniffs and sniffs and looks suspicious, as though you had arrived from the lower regions, and would address you, as Dr. Johnson once did a querist, with the phrase, 'I smell, but you stink.' Even as I write, my pocket-knife that has cut my cigar has scented it with naphthaline. It may be healthy, but it's an acquired taste not easy to possess. So if you can persuade the Committee of the B. B. K. A. to express their opinion as to what ought to be done, it would muchly relieve many, and give moral support to those who had faithfully carried out the official directions, and leave them with an easy conscience that they had done what the best experience taught, instead of acting on their own individual judgment.

Bees are ready and waiting for the clover honey-flow. The clover itself looks prime, if only the weather is propitious. On the 13th the temperature was 45° Fahr., at 9 a.m., in the shade, against 79° on the 9th inst.—F. J. CRIBB, *Gainsborough.*

HEREFORDSHIRE B.K.A.—TECHNICAL INSTRUCTION IN BEE-KEEPING—A TRAVELLING BEE-VAN.

[1061.] I am glad to be able to report the successful start of a method of imparting instruction in bee-keeping, which I think will prove as effective as it is original. Those who have charge of the manipulations in bee-tents at horticultural or agricultural shows know only too well how few of the rural population are touched by these means. When, therefore, our Association applied for a grant from the County Council, it was resolved to make a departure from the usual schoolroom lecture, expert's visit, and bee-tent routine. The grant (50*l.*) was made, and a one-horse sleeping van built (out of the funds of the Association). The back is made to let down and form a platform for the lecturer; in the open end thus formed a muslin screen, fitted on a roller, can be drawn down, and the magic lantern, being placed in the doorway at the other end, projects a brilliant picture of about five feet, which can be well seen after nine o'clock in the long summer evenings. The oxy-calcium (spirit) light is used with a cylinder of oxygen, and our expert, Mr. Meadham, has had no difficulty in making himself proficient in fixing and starting the lantern, his son afterwards changing the slides while he talks at the front.

Quite a number of bee-keepers have been called upon on the route, and various services performed, twenty pounds of honey being extracted from one, a swarm hived for another, &c. At the afternoon demonstrations a screen is fixed up in a temporary way, and a frame hive opened, supers put on or taken off, &c., or if only straw hives are available, one is driven. The attendances in the afternoon are not usually large. The evening attendances depend a good deal upon the efficiency of bill-posting and

delivery, and personal interest taken by local people of influence. At Much Dewchurch the attendance was very large. The Vicar entertained about sixty people to tea, and as the evening was wet, the appliances and lantern screen were moved into the schoolroom, and the lectures given there.

At Goodrich Court the High Sheriff (H. C. Moffatt, Esq.) took much interest in the proceedings, and had the van brought up to the court. Here the attendance was small on account of imperfect bill-distribution. It is also best to halt the van in the village, and not take it away from the population.

I gave the lantern lecture myself the first evening, and found that the pictures took hold of the audience thoroughly. For instance, if you describe verbally how a swarm of bees is hived in a bar-framed hive by being shaken out on to a newspaper leading up to its mouth, a not-too-bright audience may miss the point; but when you show on the screen a photograph showing the hive in position, the man standing over it with an empty skep, mouth downwards, in his hands, while underneath is the mass of bees on the newspaper, a few words make everything clear.

At St. Weonards and Bridstow good audiences attended, and quite a number of bee-keepers expressed their determination of trying improved methods.

We are fortunate in having secured a suitable man in Mr. Meadham; the work is hard and continuous, and could only be carried out by one whose heart is in it. We do not send a horse with the van, but get one from place to place. The enclosed bill will best describe the arrangements of the tour. The seven o'clock discourse was chiefly confined to practical methods, the natural history of the bee being touched upon in the lantern lecture.—ALFRED WATKINS, *Hon. Secretary, June 27th.*

CARNIOLAN BEES.

[1062.] I send you my experience of Carniolan bees. Last June a neighbour sent me word at nine o'clock on Sunday morning that there was a swarm of bees in his garden, so I went and fetched them. Found they were Carniolans—a small swarm or cast—and put them in a hive. Wintered them on five frames with the honey they had made. This spring I found they were breeding rapidly, and on April 25th I put on a body-box, removed the ten frames to it (there was brood in every frame, but no queen-cells), and put ten frames, with foundation, underneath. On May 27th they swarmed—a large one, covering six frames, although they had not completely drawn out the lower frames. I cut out eight queen-cells, and could not see any more. I also destroyed a great number of drone-cells with larvæ in. Yesterday they threw off a cast in my absence. I am afraid Carniolans make more swarms than honey.—W. T. E., *Ealing, June 20th.*

SPREADING FOUL BROOD BY LENDING EXTRACTORS.

[1063.] Last autumn you published (in *Record*) particulars of what appeared to be a most successful cure of foul brood in a hive belonging to a neighbour of mine. It wintered well and was full of bees and apparently healthy brood as late as end of March last. In May all my hopes were disappointed, disease reappeared. What is worse it spread to a previously healthy hive adjacent; both colonies were then destroyed. This is not all; to oblige my neighbour I extracted some of his honey for him last summer. My frames and his got mingled, and this summer I have had to destroy a hive of my own which is undoubtedly traceable to my want of care in extracting honey from frames that were infected. The process of treating foul brood requires the exercise of care which it is almost impossible to give without the risk of infecting appliances in some way or another, perhaps in a way least suspected.

MORAL.—*Beware of borrowing or lending extractors.*

As this communication seems to terminate uncharitaby I will not avow myself save as—A KENT BEE-KEEPER, *June 23rd.*

A HUMBLE-BEE'S NEST IN THE DRAWING-ROOM.

[1064.] Perhaps the readers of the *Bee Journal* may be interested in hearing further of the humble-bee who made her nest in my drawing-room (1043, p. 221). We called her 'Ta-ra-ra Boom-de-ay,' a suitable name, as she came booming in and out merrily all day long, sometimes stopping in her nest 1½ hours, but seldom out of doors more than a quarter of an hour at a time. This continued for about ten days, when one morning Ta-ra-ra did not appear. At one o'clock she was found lying on the floor, and evidently had been hurt out of doors, but had managed to struggle in at the window. One of the children put her down her hole. An hour later I was suddenly called with the mournful news that Ta-ra-ra was dead. I rushed in, and found her lying by the window, not quite dead, but all the *boom* gone out of her, and only a convulsive struggle or two. I felt that death would be kindness, and with a heavy heart said, 'Take her out and bury her.' But by this time she had won the affections of my family. One little girl (a noted hater of bees) exclaimed, 'It will be burying her alive!' Another said, 'Let us give her some honey.' Some was fetched, and immediately her long proboscis came out, and she drank greedily. She then revived a little, and was able to crawl down her hole. Two hours later she was again found lying on the floor, but not quite so feeble, and now and then a faint boom was heard. She was again fed, and after a good meal she suddenly seemed to recover entirely, and soared away in the open air. She then went on working as usual, only that

day, instead of retiring for the night at seven o'clock, she worked on till nine. I need not say the window was never shut till she was in bed. All the next day she worked well. Then came Whit Monday, and I went away.

Whether she pined for me, or whether she went out on a Bank Holiday excursion and met with an accident I cannot say, but from that time Ta-ra-ra Boom-de-ay was never seen again, and we are left sadly lamenting her loss.—G. O. BRAY, *Heathbourne, Wandsworth Common, June 17th.*

NOTES BY THE WAY.

[1065.] The weather since my last notes has not been good for bee-keeping. The first week was cold and sunless, with frosts every night. The frost on the morning of the 15th inst. was a record breaker or maker; the oldest inhabitant could not remember so severe a frost in the middle of June. Vegetation suffered severely from its effects. The week just ended has been an improvement on the preceding one, though anything but good bee-weather. On Thursday we had a splendid rain of several hours' duration, and this gives us hope of a second crop of white clover on the recently bare fields, the scythes and machines having cut all our bee-forage except vetches and wild mustard, or charlock, as we term it here. The loss of the best fortnight during the year must class 1892 among the poor honey seasons. Further north, where bee-keeping has two strings to the bow, *i.e.*, clover and heather, perhaps a more hopeful and glowing account may be given. I trust it may, for the sake of our brethren in the craft, and for the advance of our hobby.

I don't know if sparrows are such pests in other apiaries as in mine, but they are feeding all day on my bees, and several times I have seen them catch bees while both bird and bee were on the wing.

Laying or 'Fertile' Workers.—American writers cannot account for the reason why an ordinary worker should become an ovipositor. If the term 'fertile' is used in connexion with a laying worker-bee it denotes that the said worker-bee has become fertilised by impregnation, but who amongst bee-keepers actually believes that fecundation has taken place? I would suggest that by some means the said laying worker-bee has acquired the power of ovipositing by eating 'royal jelly.' I don't know if this theory has been advanced before, but to my mind it is the most feasible proposition to account for the bee acquiring the power over and beyond her fellow-workers. Perhaps some of our scientists will give us their ideas and opinions on the subject. [This theory has frequently been advanced before.—EDS.]

I notice that the 'black bees' (not the so-called 'Punics') are receiving—or, should I say, working into?—more favour than they had a few years back in America. Some of the leading men in the craft are extolling their qualities, as an all-round bee equal, if not superior, to the imported races. There is just the crux of the matter summed up in a few words, or, in fact, one word, and that is, as natives they are acclimatised, while the foreign races will take generations, not only of bees but of men, to get acclimatised. In fact, unless we constantly keep up a constant importation, the characteristics of the foreign races would in a few years be absorbed and obliterated beyond recognition.

Personal.—Three of my exhibits of comb honey at the 'Royal,' and an exhibit from Oxfordshire, were disqualified by the judges for some inscrutable reason. I feel the matter very acutely, otherwise I should not allude to it here. I trust it was not a matter of personal malice or spite, and that the green-eyed monster, Jealousy, was not the instigator of it. The judges affixed a written notice to each of the exhibits, that the exhibits were disqualified because the lace-paper edging was more than three-eighths of an inch over the front of the glass covering the section. The rule (5) applying to the matter has been always allowed to fall into disuse; in fact, I do not think it has ever been enforced since its first promulgation, and I consider that it was a great injustice to exhibitors that it should be enforced without the Committee giving notice to exhibitors that they had instructed the judges to carry out the rules strictly. Instead of due notice being given, the matter is kept secret till the judges begin their work after exhibitors have left the tent, and then the matter is sprung on them unawares. I say, and I maintain, that it is an action unworthy of Englishmen, whose motto ever is 'Fair play and no favour.' I believe I was the first to use the white-paper edging for sections, and later on I have used the lace-edged paper of the same width for several years, and have been awarded prizes year after year with edging the same width, and not a word of complaint—in fact, I may say of commendation from far and wide, at the neat and tasteful manner in which my exhibits were staged, and the same with my customers—the general comment is 'Yours is the neatest and best way of putting up honey we have seen,' &c. I must say in conclusion that the action of the judges is a sorry comment on progressive bee-keeping. My motto has been that of the Landwehr 'vorwarts' in the past, and it will continue the same, though I may, like Othello, find my occupation (as an exhibitor) gone.—W. WOODLEY, *World's End, Newbury.*

[We were as sorry as we were astonished to see Mr. Woodley's exhibits disqualified, as it was evident to all that his sections were the best of any staged. We would, however, submit to our friend that he should not talk of jealousy, or of any intention of depriving him of honours. Different judges have different ways of interpreting and enforcing laws and regulations; and if in former cases some have been lenient, and have not enforced the regulations, the judges in this case should not be too severely criticised because they carried out the rules. We know that the Committee of B.B.K.A, gave no special instructions

in the matter, and it was left entirely to the judges to carry out the rules according to their discretion. As the practice has been going on for some time, and growing, as instanced in the last Dairy Show, we think it a pity that such a rule should have been enforced without exhibitors' special attention having previously been drawn to it. We have a fellow-feeling with our correspondent, having suffered disqualification from even a more trivial cause, when the judges passed over some supers rather than withdraw a couple of screws. We got over our disappointment, and we are sure our friend will do the same, especially as it is a matter he can so easily remedy. Moreover, we think he still carries off the honours, as the first prize was not awarded at all, the judges evidently recognising the superiority of Mr. Woodley's exhibit.—EDS.]

SPRING DWINDLING.

[1066.] We bee-keepers in this district have been great sufferers from 'spring dwindling' this year, many colonies with active laying queens dying off quite late in the spring. I understand that the cause is, that the bees composing the colony are too old to take any interest in the rearing of young brood. As I believe this dwindling to be the case with many others, I would suggest as a remedy that the bees should be fed with strong syrup as soon after Christmas as the weather permits.—A. T. WILMOT, *St. Albans.*

['Spring dwindling,' which is usually most prevalent after a poor honey season, is generally admitted to arise from queens ceasing to lay very early in autumn, owing to the cessation of income. As a result of this, uncared-for stocks go into winter quarters mainly populated by aged and worn-out bees, which die off rapidly in the following spring. The proper remedy for guarding against the evil complained of is to start feeding in August, or the first week in September, when a bad season causes an abnormally early stoppage of breeding. A good batch of brood, reared in the early autumn, is the surest remedy against 'dwindling' the following spring; far better than any attempt to raise brood in winter and early spring.—EDS.]

EARLY SWARMING IN SCOTLAND.

A correspondent sends us the following cuttings from Scotch papers, indicating early swarms this year:—

At Sandyford, near Paisley, a stock of bees cast a fine swarm on May 27th. This is twenty days earlier than last year, notwithstanding the backwardness of the season.—*Paisley Gazette.*

A splendid swarm was hived at Kilmalcolm on May 26th.—*Glasgow Herald.*

Queries and Replies.

[577.] *Bees and Decoy Hives.*—About ten days ago, on the last day (here) of the hot weather, I had every sign of a swarm, the bees crowding and buzzing round an empty hive (furnished) which I had put as a 'decoy.' I opened the doors and tilted up the roof, and they crowded in; but at eleven that night all was quiet, and the hive empty. The same thing happened again last Thursday. 1. What should I have done to secure them, if it was a real swarm? I have a colony of bees which have been established in the wall of this old (thirteeth-century) house, and from them I get all my swarms. The wall is full of old comb perfectly black with age, which cannot possibly be got at without pulling down the house. 2. Would not the covering of glass on the supers used by 'R. W. H.' and others have the effect of stopping the necessary ventilation into the roof of the hive? I am using, this year, the stiff black milliner's net, fastened down with drawing pins, through which I can see all the bees are doing; but if you think the glass is better, I can try it on my next swarm.—L. B., *Durham, June 20th.*

REPLY.—1. You can do nothing beyond preparing the hive. The appearance noted makes it probable that a swarm intended to take possession of the hive, but you cannot force them to do so. 2. There is no need of ventilation in supers, except what the bees themselves give; and we should prefer glass to 'milliner's net' for the purpose referred to.

[578.] *Buying Foul-broody Stocks.*—I have eighteen stocks of bees, which I have increased from two, bought five years ago. They have always done well with me until I bought five new stocks on frames last year. On examination this spring I found these five were badly affected with foul brood. On seeing this, I at once destroyed them all, and, having examined my others, found them to be apparently healthy. I put three or four pieces of naptholine in each, and went well, as I thought. Previous to putting on my supers, I again examined the hives on Saturday last, and I am certain three of them have caught the disease, though, as yet, not bad. I may say that the three stocks affected are very strong, and working merrily. Now, what would you advise me doing in the circumstances? I am afraid the others will be touched also. I feed all my bees in the open air, as I am about two miles from the nearest bee-keeper; and since I new there was disease among them, I have mixed Naphthol Beta with the food. 1. Do you think I have been doing wrong, feeding in the open with disease so near, even though the syrup was medicated? I would like very much to save my bees, even though I do not get an ounce of honey this season. 2. My stocks are all strong, and would swarm soon. If they swarm, how would you advise me to treat the swarms so as to ensure their being free from the disease? 3. How should I treat the hives that diseased bees were in to make them ready for swarms, as I would not like to burn them, as they were expensive? 4. Some recommend Naphthol Beta, others phenol as a cure. Cannot both be used together?—BEESWING, *Dumfriesshire, June 6th.*

REPLY.—1. No; under the circumstances,

feeding medicated food outside was a wise step, and will no doubt tend to effect a cure. 2. Any swarm issuing may be treated in the ordinary way, but lose no opportunity of giving medicated food, *i.e.*, feed with it for a few days after hiving. 3. The hives will require very thorough disinfection before using again. We should burn the frames and combs, scald the hives with boiling water, and afterwards give a couple of coats of paint inside and out, painting into every crevice and cranny, and finally fumigating with burning sulphur fumes. 4. No, use either one or the other. Our preference is for the Naphthol Beta. Your trouble has no doubt arisen through buying diseased stocks and afterwards manipulating healthy colonies alternately with these, carrying the infection from hive to hive yourself.

[579.] *Sending Comb with Eggs by Post.*—1. Would a comb with newly laid eggs, well packed, travel safely by post from the apiary of a distant bee-keeper, with a prospect of my getting queens hatched from them? 2. If practicable, would it answer for me to send a frame of comb from my own hives to be partly filled with eggs for the purpose?—H. C., *Kingston-on-Thames.*

REPLY.—1. If our memory serves us aright, the plan mentioned above was mooted some years ago, without much success. It seems feasible that 'newly laid eggs' should retain their vitality for the few hours required for conveyance by letter-post, if warmly packed and sent only in very warm weather; but brood sent in the same way would no doubt perish. 2. If the scheme were practicable at all, there would be only disadvantage in sending frames of comb from your own hives.

Echoes from the Hives.

Neuchatel, June 12th.—Since your visit the incoming of honey has gradually increased, and the last three days have been very good, more especially to-day. The bees are busy on the sainfoin and acacias. Yesterday I was at Cernier, in the Val-de-Ruz, which is considerably higher than this, and at this moment the honey is coming in in such marvellous abundance that six large Layens frames have been completely filled from top to bottom in two days. Unfortunately, there are few hives, and none on scales.—L. LANGEL.

Nyon, June 13th.—The honey harvest is over; a strong north wind lasting three days has greatly hindered the harvest from the acacias. The net increase of the two hives on scales was 28 and 35½ kilos. (61½ and 77 English pounds), which represents an average yield. The largest increase in one day was 5 kilos. (11 pounds).

Fairspeir, Ascott-sub-Wychwood, Oxford, June 13th.—Last year was not altogether a good season for bees in this district. We had a cold east-windy May, followed by a few warm, sunny days in June. Then rain and cool weather right away to September 3rd. My yield was only thirty-five pounds per hive of run honey. I am not altogether sure that abundance of winter stores is alone necessary to successful bee-keeping. I think it rests entirely as to whether the queen is old or young. All my stocks went into winter quarters with exactly the same amount (twenty pounds each) of stores, and in spring each was stimulated with syrup equally in quantity. But I found that those stocks with 1890 queens made nearly double the quantity of honey to what those with older queens did. Although I had as many as twenty-three stocks I was not bothered with a single swarm, due, I consider, to my particular method of tiering. When bee-'driving' in the autumn for a friend I came across two laying queens in one hive! Two 'casts' had been hived together in a skep, and each 'cast' had taken a half, building until they had met, and even then the queens had not fought, neither had one of them been killed by the workers! White clover and sainfoin are now in full bloom, and we have had some lovely weather lately. Twenty-nine of my thirty stocks are tiered up for extracting, and the bees are working with a will. I have been considering over the 'two queens in one hive' notion, and I fail to see very much advantage in it if one is obliged to have all his hives large enough to hold twenty frames. Still, I shall give it a trial, and will report results.—BEE-KEEPER.

Bee Shows to Come.

July 13th to 15th.—Lincolnshire Agricultural Society, at Lincoln. 24*l.* in prizes for hives and honey. Entries close July 1st. For schedules, apply Stephen Upton, Secretary, St. Benedict's Square, Lincoln.

July 13th.—Kent B.K.A. County Show at Hawkhurst, Kent: bees, honey, and appliances, in connexion with Hawkhurst Flower Show Society. Entries close July 9th. For schedules apply J. Garratt, Hon. Secretary Meopham, Kent.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

July 26th to 29th.—Scottish Bee-keepers Association Summer show of bees, honey, and appliances, in connexion with that of the Highland and Agricultural Society, at Inverness. Entries close July 18th. For schedules apply to John Wishart, Secretary, 5 Market Place Melrose.

July 28th to August 1st.—Lancashire and Cheshire B. K. A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool. For schedules apply to the Secretary, William Wrennall, 9 Harrington Street, Liverpool. Entries close July 1st.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classe for bee-appliances, honey, &c. Entries clos

June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements.

R. Crookall.—Both samples of comb sent are badly affected with foul brood, and at this season we should certainly not in your case try curing by medicating food for the bees and leaving them on the diseased combs. Reduce each lot to the condition of a swarm, and confine the bees in a skep for forty hours or so; then put them in a clean hive on sheets of foundation. In this condition, and while building out the combs, they will take medicated food, and, by using this, together with a little naphthaline on the floor-board, you may hopefully look for a cure; but we would burn all the combs, brood, &c., now in the hives, and thoroughly disinfect the latter before again using. We wish correspondents would not enclose letters along with samples of foul-broody comb. Such letters have to be destroyed at once, and ought to be kept for reference.

S. Dickinson.—We should not advise making an artificial swarm from a swarm hived three weeks ago. You might increase to two stocks by dividing the bees and combs in September, and giving a fertile queen, along with a stock of driven bees, to the queenless portion.

J. C. (Galashiels).—The queen is known to be established in the stock hive below by the fact that eggs and brood are there.

Constant Reader (Great Marlow).—Formic acid has been so frequently misused, through want of knowledge or unskilfulness in applying it, that we could not recommend its use under the circumstances named. The other remedy is safer in ordinary hands.

Gibbins (Linsbury).—Comb is not foul-broody, and contains only dried pollen.

*** *We are again compelled to hold over several communications which are in type.*

GOODS, Carriage Paid, sent on receipt of Remittance.

SMOKER. — The best in the World, Mahogany, polished, double Spring and Fireguard, delivered free, **3/6.**

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FOUNDATION.—Delivered packed in boards, 9 to 10 sheets per lb., Brood, **2/3**; very thin, per lb., Section, **3/-.** Delivered post free.

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SUPER CRATE.—Neatest and warmest, fitted with 21 1-lb. Sections, with whole sheets of Foundation; Spring Dummy, carriage paid, delivered at your own door ready to put on, **4/6.**

SECTION SUPER.— For top of Skeps, fitted with Roof, well painted, staples and pins for fixing, fitted with Sections containing whole sheets of Foundation, Dummy-spring, &c. Holding 15 Sections, **6/6**; 30 Sections, **9/6**, carriage free, delivered at your own door.

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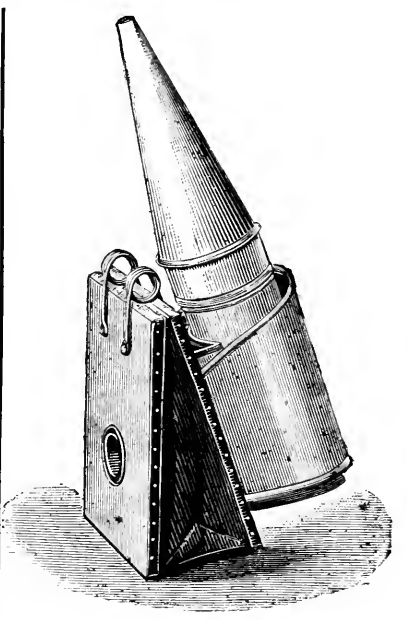

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Wilts Bee-keepers' Association.

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MERE, August 1st. Temperance Fête.

SWINDON, August 17th. Flower Show in the People's Park, New Swindon.

This will be the COUNTY SHOW, at which alone Prizes will be offered by W. B. K. A.

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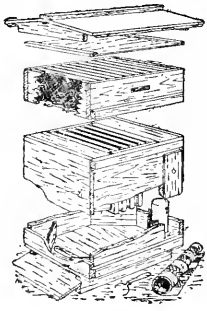

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—We have now had, for over three weeks past, about as fine weather for bees as can ever be hoped for in our changeable clime. Odd days there have been when thunderstorms accompanied by heavy rain have interrupted bee-work for a time, and one or two quite abnormal and very keen night-frosts have occurred which wrought terrible mischief among some growing crops, potatoes especially. This was very noticeable on our railway journey up from the Bury St. Edmunds Show, where, in passing through Oxford and Sussex, large fields of potatoes were seen entirely blighted, the haulm being almost black quite down to the ground. Scores—nay, hundreds—of allotment gardens, in the occupation of labourers, looked dismal in the extreme, owing to the destruction of the potato crops. A single night's frost did all the mischief, and we could not help thinking what a source of satisfaction it would have been to see a few hives of bees in these allotment grounds, whose busy occupants would have been able to recoup their cottager owners for some, at least, of the loss of the potatoes. It was also most curious to note, from the window of the train, how suddenly the effects of the frost referred to ended; directly we got out of the track of the terribly cold current which did the mischief, the potatoes were seen in as green and luxuriant growth as was possible.

MAKING THE MOST OF THE SEASON.—Our northern friends have evidently not fared so well as those located in the south, where bees in some parts have been doing very well indeed of late; forage is, and has been, abundant, and the weather very satisfactory indeed, so that large takes of honey are already safely secured. If—and we cannot omit that, to the bee-keeper, fateful *if*—the beautiful weather now prevailing everywhere holds out for the rest of the month, we shall hear the cry of satisfaction extending north, for there is time yet to get in a crop large enough to make '92 a good honey season all round, and we in the south do not desire to have all the good things to ourselves. Bees are so strong in numbers, and such luxuriant crops of white clover bloom are seen everywhere, that a fortnight of the present warmth and sunshine will enable the bees to do wonders. What must be borne in mind is the fact that the season in the north must perforce be a very short one, consequently bees should do as little comb-building as possible, and the plan of leaving on surplus chambers of honey intended for extracting till the end of the season should this year be changed for that of extracting such combs as are sealed over without delay, and giving them back to the bees the same night for refilling. We are doing this ourselves at present with excellent results, and it will be found that wet combs returned after the bees have ceased work for the day will cause no excitement except in the hive to which they are returned, and this will have quite subsided by the following morning.

Another 'hint' worth remembering is, that as the season draws to a close, bees are helped in honey-storing by being crowded up a little as the cool nights of autumn are approaching; therefore, when removing a rack of full sections from several tiered-up ones, there is no need to give an empty rack in place of the one taken away, if those left on are still unfinished. Moreover, there is less likelihood of the honey being carried down into the brood chamber below while the surplus boxes are well filled with bees. Sections should be dealt with on the same principle as combs for extracting—removing full ones, and crowding the bees into those less forward, instead of adding racks of empty sections late in the season. Some hives will have too many sections on to hope for all being completed

before the season ends, some will have too few; and so there should be a judicious interchanging, which, if well done, will result in all being finished off.

VARIETIES OF BEES.—How frequently are we asked, 'Which is the best bee to keep?' and as often compelled to exercise our consideration for the predilections of others when we hesitate in recommending bees which are by some so highly extolled for their marvellous good qualities. Beginners in bee-keeping not seldom 'wish to go in for the best bee at once, and do away with the *common kind*.' By *common* kind is meant, of course, the ordinary bee of the country; and the very name would seem to carry with it some idea of inferiority when compared with the—shall we say?—'superior varieties.' For many years we have not hesitated to personally prefer the 'common' bee to any other. But we do not grudge to others any preference they may have for whatever variety of bee they have found to answer their purpose best. All we say is that *our* common bees suit *us*. They are no more pure than bees can be which have those of other bee-keepers near enough at hand to occasionally give a splash of some other variety than the old brown bee of this country, which is our favourite. But as to which bee will do most work in honey-gathering—well, we can only say that some folks who are bee-dealers or queen-sellers might not be ashamed to give our present honey returns as showing well 'up to date.' We began with eight colonies. One has swarmed; the parent stock and top swarm from it having each given a box of shallow combs quite full and sealed, and are now rapidly refilling these combs after extracting. The second swarm, or cast, is also established as a new colony, and has its hive nearly filled with honey and brood, so that from the one stock we have now three, and can certainly count on over eighty pounds of honey. Three of the remaining seven hives are storified—one with a box of shallow frames (full and sealed over) and three racks of twenty-one sections, all well on towards completion, the other two having each three boxes of shallow frames above the brood nest—two filled and sealed, and the third well on the way. The remaining four stocks have each got a full and sealed box of shallow frames above the brood chamber, and a full box has been already removed from each, the combs from which, after extracting, are now being refilled. This is on July 5th, in Kent, and there is still a couple of weeks' work to do if the weather keeps good.

We simply give the above facts in order to show what can be done by 'common' bees, and if the 'superior' varieties can do better, we shall be very glad of it.

NORTH AFRICAN BEES—WHAT ARE 'PUNICS?'

(*Concluded from p.* 244.)

We have now been able to satisfy ourselves that there is only one race of honey-bees in Tunis and Algeria, and that this race is *Apis mellifica* and not *Apis niger*. We have brought specimens from different parts, and in due time we shall exhibit them in the proper quarters. These North African bees, as a climatic variety, are black, and as small as the small black bees found in this country, as well as in other parts of Europe. The queens are prolific, and the workers industrious, but this is the most that can be said in their favour. They are certainly the most vindictive bees we have come across, more so even than Cyprians or Syrians. They will sting without the slightest provocation, even when one is not near the hives. We found strong colonies always inclined to sting, and only weak colonies and those having young bees less inclined to do so, although we were told that sometimes they were quieter. They were said to be 'the tamest bees known.' 'The honey producer being the party to appreciate the bee that does not sting' (*C. B. J.*, p. 457, 1891), but this is not borne out by our own experience, or the unanimous verdict of those cultivating these bees. On one occasion, before we got near the apiary, we were attacked and were pursued for a considerable distance by enraged bees, and this was not during their swarming time. It was useless to attempt any inspection of the bees without veils and a profusion of smoke. So well is this character of the bees known that the bee-keepers take great care to place their apiaries as far away from houses as possible. Not satisfied with stinging, they even bite. Their character is well shown in a letter from a correspondent on page 258 of this issue. The queens resemble the eastern races, in that they are extremely prolific, but are very short-lived, and a colony frequently renews its queen several times during the year. On the loss of a queen a large number of fertile workers commence laying.

This race of bees swarms frequently, and it is not unusual to have from five to eight small swarms. A large number of queen-cells are raised, and we have ourselves counted as many as sixty on one comb. The swarms are small, and the after swarms frequently consist of almost as many queens as worker-bees. The workers spread over the hive, and do not protect their brood so well as other races. They are

the most persistent robbers, although it has been stated that they are 'non-robbing.' Our correspondent, M. Ph. J. Baldensperger, on p. 227 of the *B. B. J.*, gives a case of robbing, and we ourselves had an opportunity of witnessing a hive being robbed. A bee-keeper in Tunis, having 120 hives, is so annoyed at being so persistently stung by his bees that he talks of giving them up, and we met several who were going to import Carniolan queens to improve the race or to supersede the natives.

We shall have a good deal more to say about these bees, and the pleasant times we spent with the bee-keepers in Africa, in due time. These bees, as we stated in *B. B. J.* for 1891, p. 381, have been tried in Europe since 1874, and have been abandoned, and it is fortunate that not many have been introduced into this country, so not much harm has been done. It is to the credit of our dealers that they have had nothing to do with them. No doubt a race that will rear hundreds of queen-cells is a valuable one for the virgin queen dealer, but such a race is not one for the bee-keeper, whose object is honey.

These bees are cultivated in a very simple fashion by the natives. The nomad Arabs that live in tents have a few hives—sometimes five or six—which they place at a distance from their tents. These hives are cylinders of cork or basket-work, or even in some places they are made of the flower-stems of the giant fennel. The hives are about three feet long and eight inches in diameter, and are covered with cow-dung. They are placed horizontally, and have a piece of cork bark or wood at each end, with a hole for an entrance cut in them. When the Arab wishes to take the honey, he removes the board at one end, and thoroughly smokes the bees. For this purpose dry cow-dung, reduced to a powder, is set on fire in a pan, and the dense smoke is blown into the end of the hive. This drives the bees forward, and nearly stupefies them. The Arab then cuts out about a third of the combs, replaces the board, opens the hole, and turns the hive round. In this way the combs are constantly renewed. The combs are then mashed up together with brood and pollen. This mess is used as honey, and the wax melted and sold.

The Kabyles, who live in villages, cultivate bees more extensively, and sometimes have as many as from 200 to 500 of such hives, generally of cork. We have brought home some Arab hives, and hope to show them to our friends. We were offered queens by many of the bee-keepers, but preferred to bring them pinned out in our insect case to taking them alive, so convinced were we from what we saw that they would not be an acquisition, and would only damage our more quiet races. What we want besides industry is good temper, and in this respect there are no bees superior to Carniolans.

Every bee is suited to its own country, and our advice to our African friends was to make the best of their bees by selecting the quietest for breeding, and eliminating the bad-tempered ones, and thus improve their own breed. The entire behaviour of these bees showed that they were only suited to a warm climate. They are enormous propolisers, and rear a large quantity of drone brood. In fact, one bee-keeper showed us frames that had been fitted with worker combs where the bees had cut down the combs and constructed drone comb, so intent were they on having a large number of drones. This certainly is consistent with their habit of rearing a large number of queens.

We will just conclude by observing that the place from whence these bees were sent to England is 200 miles from the desert. Moreover, there are no bees at all in the desert, nor for some distance before one gets there, the upper plateaus being arid and barren. We travelled as far into the Desert of Sahara as the third oasis, Sidi-Okba, but did not see a single bee, either wild or domesticated. In fact, there are no flowers for them to gather from, and little else besides date-palms are cultivated in the oases.

THE 'AMERICAN BEE JOURNAL.

Change of Proprietorship.

We regret to see that, owing to failing health, Mr. Thomas G. Newman has been obliged to retire from the proprietorship of the *American Bee Journal*. This he has sold to Mr. G. W. York, who has been an assistant in editing and publishing it for eight years. We have for so long a time known Mr. Newman, and have always had such friendly relations with him, that we cannot but feel regret that he has been obliged to relinquish the responsibility and anxiety of proprietorship. We are, however, pleased to see that Mr. Newman still remains one of the editors of the *A. B. J.*, and we hope the time may be far distant when he severs his connexion entirely. The *A. B. J.* has been successfully conducted by him for nearly twenty years, and it has always held a leading position amongst bee papers. We wish Mr. York every success in his new undertaking, and hope that he will continue a worthy follower in the footsteps of Mr. Newman. Messrs. Newman & Son still continue the supply business.

ROYAL AGRICULTURAL SHOW AT WARWICK.

(*Continued from page* 245.)

Class 288. *For the Best Rapid Feeder* (six entries).—The first prize was given to Mr. Meadows for an exceedingly good feeder (price 3*s.*) holding eight or ten pounds of syrup. The trough was of tin, as all feeders of this type, in our opinion, should be, wooden troughs being, sooner or later, so liable to leak. The objection to tin, as presenting too cold a surface for bees to stand on while feeding, was nicely overcome in this exhibit by making that portion of the feeder entirely of wood. It was also adapted for dry-sugar feeding, or for scraps of comb

containing honey. The second prize went to Mr. Redshaw, whose feeder (priced very moderately at 2*s.*) was smaller than the above, made entirely of wood, and rendered watertight by an inside coating of shellac. It also had a detachable arrangement, for use if desired, as a pea-flour feeder for spring use. Messrs. Neighbour got a high commend for a very large feeder, covering all the frames of an ordinary hive, and holding about twenty pounds of syrup.

Class 296. *For Useful Inventions introduced since* 1890 (twelve entries).—The 'Inventions' in this class were chiefly confined to 'self-hivers' and 'super-clearers,' eight of the twelve entries being intended for one or other of these purposes. Three only of the exhibits staged were rewarded by the judges, who gave a silver medal to the 'Garstang' heather-honey press made by Mr. Robert Barton, of Garstang. The principle on which this machine is constructed was very fully described on p. 402 of *B.J.* for September 10th, 1891, though that shown at Warwick differs somewhat from the one illustrated therein. It is a very powerful machine (perhaps a little heavy in the ironwork), but capable of doing a lot of work in a comparatively short time, and the price (11*l.* 16*s.*) is very moderate for such a machine. A silver medal was also awarded to Mr. J. W. Sheppard for his 'self-hiver,' made familiar to our readers by the illustration on p. 45 of *B. J.* for February 4th of this year. The above contrivance, as well as Mr. Barton's press, had the merit of having been tried during the past year, and proved a success in each case. A self-hiver made by Mr. Trebble was commended as possessing several good points capable of being worked into a good and useful article for the purpose; but at present it is crude in form, too small in some parts, and altogether requires further developing.

Of the unplaced exhibits in this class may be mentioned (1) a self-hiver by Messrs. Turner & Sons, with a sliding platform, on which the hive or box to receive moves up and down, piston-like, to accommodate it to a hive with several stories of suplus chambers on. This, again, wants testing before receiving approval, for it is open to question whether a swarm will travel upward two or three feet to enter the receptacle prepared for it. (2) A homely-looking super-clearer, consisting of a shallow box about two inches deep, in which are fixed a dozen tin cones pointing downward, through which the bees pass when the clearer is inserted between the body-box and surplus chamber. As a simple, home-made article, no doubt it will do its work fairly well, but why have twelve cones when two would answer the same purpose? (3) A simple super-clearing arrangement made by covering a rack of sections with coarse netting, in which is fixed a cone-clearer, through which the bees are supposed to pass out. The query arises, Will the bees find the point of egress? We doubt it very much. (4) A double cone of perforated zinc for fixing over the ventilation hole in a hive roof, where it remains the whole year round, allowing for the escape of stray bees left out of the hive when manipulating, as well as for clearing supers. If this contrivance acts as well as it appears likely to do, it will probably not be left unnoticed at a future time. Most of the inventions passed over by the judges, besides those enumerated above, ought, however, in justice to these gentlemen—as well as to the exhibitors—be tried and proved before being adjudicated upon.

Class 297. *For the most Interesting and Instructive Exhibit of any Kind not enumerated in the Foregoing Classes* (two entries).—Interest and instruction were represented by Mr. Hooker's 'combined hive and self-hiver,' referred to in Class 284, and a sample of honey gingerbread cake! Why two such totally different articles should be staged alongside of each other is difficult to understand, and the first-named exhibit would, we thought, have been more appropriately placed in the preceding class. Messrs. Neighbour received a silver medal for Mr. Hooker's device, which, we noticed, has been 'registered.' We trust this ingenious contrivance will be well tried before the swarming season is over, in order that judges may not be placed at a disadvantage in assessing its value on the show table. Theoretically, it has every appearance of accomplishing all that is claimed for it; but, in bee-matters especially, the value of a practical test is of such importance as to make it obviously unsafe to say what will happen until the opinion formed by inspecting is verified or otherwise. Mr. Dixon's sample of honey parkin received a H.C.

This concluded the appliance classes, and so we must hark back to Class 289 for the *Best twelve* 1-*lb. Sections of Honey Gathered in* 1892 (seventeen entries). The early date of the Show and the backward season again interfered with the number of exhibits staged in this class as well as with the quality of the produce. The first prize would undoubtedly have gone to Mr. Woodley's excellent sections, but for an unfortunate informality in the width of the lace-paper edging used for attaching the glass to the section. The first prize was therefore withheld, second and third going to the Rev. G. W. Bancks and Mr. E. T. Smith in the order named.

Class 290.—*Best six* 1-*lb. Sections of Honey Gathered in* 1892 (seventeen entries).—The same informality again applied to Mr. Woodley's sections here as in the preceding class, Captain W. S. Ord taking first with a very fair half-dozen sections; Mr. Geo. Bush, second; and Mr. E. T. Smith, third.

Class 291.—*Best* 24 *lbs. Extracted Honey Gathered in* 1892 (fifteen entries).—Some very fine honey was staged in this class, though the number of entries was not large, the prize lots being excellent and indicating the quality of honey which may be expected at later shows, when a fortnight's time has given bees a full chance of storing from the best sources of supply.

Class 292.—*Twelve* 1-*lb. Sections of Honey Gathered in* 1891 *or Previously* (seven entries),

—A small class of medium merit, but containing sections nicely preserved and fresh-looking for old honey.

Class 293.—*Best* 12 *lbs. Extracted Honey Gathered in* 1891 *or Previously* (thirteen entries).—A very good class, as was indicated by several high commends, in addition to the prizes.

Class 294.—*Best* 12 *lbs. Granulated Honey* (thirteen entries).—Here also some exhibits were recognised beyond those taking prizes, and the honey was very good all round. The only exhibit of heather honey in the Show took third prize in this class.

Class 295.—*Best and most Attractive Display of Honey in any Form* (five entries).—Mr. Woodley's pretty and effective display received an easy first in this class. It was almost wholly section honey, got up in his usual neat and clean-looking style, and contained quite a good proportion of this season's honey. Mr. Meadows got second with a nice collection tastefully displayed. We think, however, though it may be appropriate in a church, on the occasion of a harvest festival, to see a cross formed of sections of honey, it seems somewhat out of place at an agricultural show, and should not be encouraged. Mr. Cooper's honey, which took third prize, was nearly all extracted.

The duties of judging were fulfilled by Messrs. Walter Martin, Wainfleet, Lincolnshire; Jesse Garratt, Meopham, Kent; and W. Broughton Carr, Orpington, Kent.

PRIZE LIST.

Hives and Appliances.

Class 282.—For the best collection of hives and appliances. First, W. P. Meadows, Syston, near Leicester; second, Charles Redshaw, South Wigston.

Class 283.—For the best observatory hive, stocked with bees and queen. First, Charles Overton, Crawley, Sussex.

Class 284.—For the best and most complete frame hive for general use. First, Charles Redshaw; second, George Neighbour & Sons, High Holborn, London; third, C. Redshaw; highly commended, G. Neighbour & Sons.

Class 285.—For the most complete and inexpensive frame hive for cottager's use. First, George Neighbour & Sons; second and third, Charles Redshaw; highly commended, Green & Son, Rainham, Kent, W. P. Meadows, and C. Redshaw.

Class 286.—For the best honey extractor. First and second, W. P. Meadows; highly commended, T. Lowth, Riseholme, Lincoln.

Class 287.—For the best pair of section racks. First, G. Neighbour & Sons; second, C. Redshaw; third, Hutchings Bros., St. Mary Cray, Kent; highly commended, C. Redshaw.

Class 288.—For the best rapid feeder. First, W. P. Meadows; second, C. Redshaw; highly commended, G. Neighbour & Sons.

Honey, &c.

Class 289.—For the best twelve one-pound sections of 1892 comb honey. First, not awarded; second, Rev. G. W. Bancks, Darenth, Dartford; third, E. E. Smith, Southfleet, Gravesend.

Class 290.—For the best six one-pound sections of 1892 comb honey. First, Capt. St. G. Ord, Bury St. Edmunds; second, Geo. Bush, Rogate Lodge, Petersfield; third, E. E. Smith.

Class 291.—For the best exhibit of twenty-four pounds run or extracted new honey in jars. First, Capt. St. G. Ord; second, W. Woodley, World's End, Newbury; third, W. Christie-Miller, Broomfield, Chelmsford.

Class 292.—For the best twelve one-pound sections of honey gathered in any year. First, W. P. Meadows; second, Rev. G. W. Bancks; third, W. Dixon, Beckett Street, Leeds.

Class 293.—For the best twelve pounds extracted honey gathered in any year. First, W. Dixon; second, T. Badcock, Southfleet, Kent; third, W. Christie-Miller; highly commended, W. H. Seymour, Henley-on-Thames, and W. P. Meadows.

Class 294.—For the best twelve pounds granulated honey. First, Ethel Chester, Waltham, Melton Mowbray; second, W. P. Meadows; third, John D. McNally, Laurencetown, co. Down.

Class 295.—For the best and most attractive display of honey in any form. First, W. Woodley; second, W. P. Meadows; third, E. Cooper, St. Nicholas Square, Leicester.

Class 296.—For useful inventions introduced since 1890. Silver medals, J. W. Sheppard, Chingford, and Robt. Barton, Garstang; highly commended, John Trebble, South Molton.

Class 297.—For the most interesting and instructive exhibit of any kind connected with bee-culture not mentioned in the foregoing classes, to which prizes have not been previously awarded. Silver medal, G. Neighbour & Sons; highly commended, W. Dixon.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see* 1*st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NORTH AFRICAN BEES.

[1067.] I have been very busy lately, and have not had time to write as I wished, for I have had to put my bees in different places for the purpose especially of taking advantage of the sainfoin, which is found in abundance here and there. I have also been called upon to do

territorial military service at Alger for fourteen days, which was extremely disagreeable, as it came just during our harvest work, and in consequence of this I have had some loss. This is the third season that we are at Alma, and have come to the conclusion that it is not a good place for honey. The first year we had too much rain, the second year there was too much in the beginning and none at all at the end of the winter, and during the third there was too little rain all through the winter. During the month of March the bees worked very well, but all through the month of April they did nothing at all; so you see we have had three different seasons, and all of them have yielded small returns.

After your visit to us we had an accident in our apiary, which I think is worth mentioning as showing the nature of our bees. My donkey has been killed by the bees. She had been tied about thirty metres (nearly thirty-three yards) away from the hives, trees and bushes separating her from the apiary. I had scarcely been absent for a quarter of an hour, but when I returned the donkey was densely covered over with bees. I quickly cut the rope, and took her off about 100 metres through the bushes till I could rid her of the bees. I then washed her with vinegar, but this was no use, for after fourteen hours she died. I suppose her foal, which was loose, was the cause of it, and brought the bees. The foal has been saved, but is still suffering, so you see that we have got an aggressive bee, but it is principally so in spring. At present they are as calm as they can be.

The hornets came again this year, but not in such great numbers as last year, and did very little harm. I shall send you some before long, with some other insects. I have not yet had time to look after the wasp's nest, but as soon as I see it, I will let you know it. At the present moment we are having plenty of peppermint and giant fennel in bloom, from which the bees are gathering honey. M. Feuillebois and M. Regnier have not had such good results as ourselves. M. Feuillebois works all his bees without supers or outer case, so that he has got his hives mostly filled with young colonies, and they are not strong enough to yield honey.—EMILE BALDENSPERGER, *Algeria.*

ROYAL AGRICULTURAL SHOW.

DISQUALIFIED EXHIBITS.

[1068]. Mr. Woodley, in his 'Notes by the Way,' makes public the action of the judges at this show in disqualifying certain of his exhibits, and describes their reason as '*inscrutable*.' It, therefore, seems to call for a little explanation, which, in spite of his unpleasant imputations, perhaps my fellow judges will not mind my giving.

We performed our task as though it were the first occasion, free from prejudice or prepossession; our chief desire being that justice should be done to all concerned consistently with the regulations laid down.

The question of compliance with Rule 5 was raised during the judging of Class 295, 'for the best and most attractive display of honey in any form,' and after due deliberation it was agreed that, as the object in providing a class of such description was to encourage the production of honey in a tasteful form, and that decoration was an essential feature, the non-compliance should be waived. But when the same description of exhibits was found in the classes appropriated to honey in sections, and upon measurement it was found that, instead of the edging being three-eighths of an inch in width it was five-eighths of an inch, the decision was come to that it must be disqualified.

Personally, I may say I have long felt that Mr. Woodley has acted in direct defiance of the law, and has secured a decided advantage over other competitors by allowing a much smaller amount of the surface of the honey-comb to be seen, and by keeping out of sight one of the principal features to which the judges attach importance. The evil of tolerating a breach of the regulations was made strongly apparent at the honey show held last autumn at the Agricultural Hall, Islington, when other exhibitors sinned in even a greater degree than Mr. Woodley has done. To my mind, it is quite a question whether the citation about 'Fair play' is very apposite. It is very clear that whatever may have been the course taken by judges on previous occasions, Mr. Woodley must at some period have deliberately determined to disregard the regulation, and then, emboldened by success, continued in a course of law-breaking. He has now only himself to blame, and as persons so placed are apt to do, he casts insinuations upon those to whose hands he imputes injury.

I do not in any way differ from those who have complimented Mr. Woodley on the appearance of his sections, but that has nothing to do with the question. We may admire, but admiration must not be allowed to mislead where justice is the leading principle.—J. GARRATT, *July 4th*, 1892.

A HIVE IN A ROOF.

[1069.] About four years ago I was informed that for three years bees were seen coming out of a hole in the wall near the roof of a farmhouse at Bainton, Driffield As no one dared take the honey, I went up in a dark attic and found the bees were under the floor-boards. I cut two squares out, and took two stone of splendid honey. I have taken out a similar quantity every year except the bad year, 1888. The bees offer no resistance, being dazed or dazzled by the candle-light. They are not fed. I only take the comb which is built at the back every year. The hive is very narrow, and has a very dusty floor-board; I should say it is four or five feet long. In nearly every other case I have

heard of, the 'goose is killed which lays the golden egg.' The poor bees are smothered, and it is thought a 'grand success' to get the honey. —T. W., *York.*

ORNAMENTAL BEE-DESIGNS FOR EXHIBITION AT SHOWS.

[1070.] If your correspondent (1057, p. 238) will write me, I will give him detailed instructions of my original method of producing letters and figures in honey-comb. I may, perhaps, be allowed to add that it has been so far successful as to gain for my exhibits the first prize for most attractive novelty in honey at our county show at Shrewsbury, both in 1890 and 1891.—J. EDMUND RODEN, *District Secretary S.B.K.A., Oldbury, Bridgnorth, Shropshire, July 4th,* 1892.

FOUL BROOD.

[1071.] During the month I have examined over one hundred stocks of bees, and have not had one case of foul brood. Some stocks were weak from the severe and protracted winter, but are now in a position, by a little feeding, to reap the honey harvest from the lime-trees, which are just coming into bloom in this district. —S. K., JUN., *Newbury, June 27th.*

SHOOTING AT A SWARM.

[1072.] A few days ago, A. J. Cholmley, Esq., who lives near here at Newton Hall, found out that a swarm of bees had settled on a tall beech-tree, and were hanging from a branch. Being an excellent shot, Mr. Cholmley went for his rifle, and taking eight shots (several bees coming down with each shot), cut through the branch. Down came her majesty, and the bees were successfully hived.—T. S., *Scampston Vicarage, near Malton, Yorks.*

Queries and Replies.

[580.] *Swarm Refusing to Enter Sections.*—I am a beginner, but a very enthusiastic one, and I venture to ask:—1. Do casts build differently in skeps from a first swarm? 2. I had a good swarm on May 25th, and put it on ten frames of full foundation. A week after, advised by you, I put on a case of twenty-one sections without excluder zinc. They are not working in the sections. Should I take the case off or leave it on, hoping they will see its meaning, or can I do anything now to induce them to move up? Having the sections prepared, I should prefer to have them filled out to extracting from the frames. 3. I want to transfer a stock from skep to a frame hive. I note Mr. Cowan's chapter in his book, but I do not desire to break up the skep now. Is there any easier way? If I put the skep on the top of frames full of foundation, would there be the likelihood in a few weeks of the queen working down into the frames, and forsaking the skep as far as laying is concerned? In the autumn I could then take off the skep as we should a super, and leave the bees to the frame hive. What do you say?—BEGINNER, *Stonehouse.*

REPLY—1. No. 2. The bees will enter the sections if the weather is warm and honey abundant, not otherwise. They will be occupied with the building and furnishing the comb in lower (or brood) chamber, and if there comes a good inrush of honey will deposit it above, but even if they fail to do this, we advise you not to extract the honey from the frames below; leave them to the bees. 3. Yes. If the tops of the frames are prepared by covering the exposed parts after the skep is set on them. Here, again, however, remember that if the season's gathering all goes into the skep, the bees must be fed in autumn if you take the latter away from them.

[581.] I have two stocks of bees in frame hives. On No. 1 I put a rack of sections about four weeks since, and as they had begun to fill up the three outside sections a week ago I lifted them and put another rack of sections underneath, which the bees are evidently busy storing with honey. Respecting No. 2. On returning home on June 2nd, after a fortnight's absence, I found the bees only covered about eight frames, and as honey was coming in so fast in the other hive (from a field of sainfoin close by) I acted on the advice of *Modern Bee-keeping,* took out the two outside frames, brought the dummies up to the remaining eight (all of which had plenty of brood), put on a rack of sections, with the satisfactory result that they took to it at once, and I see they are now beginning to fill the outside sections. I am anxious to get as much surplus honey as possible, and, at the same time, should like to increase my stocks for next year. What plan would you advise me to adopt? The bees have shown no signs of swarming at present. Would artificial swarming do at the end of July?—AMATEUR, *Kings Langley, Herts.*

REPLY.—Prepare for increasing the number of the colonies by removing the queen of No. 2 hive at once. Ten days later examine and see how many queen-cells are sealed over, and if three reliable one are found, divide the combs, brood, and bees into three nucleus colonies, giving a queen-cell to each. That portion which occupies the old stand will get all the flying bees as its share, and so the other two nuclei should have all the young bees between them. Contract all three nuclei to as few frames as the bees can cover, wrap very warmly up, and reduce the width of entrances to one inch; put the two nucleus hives in the warmest corner of the garden, and feed if necessary. 2. If combs of the latter are seen to be sparsely covered with bees on the morning after dividing, shake off some of the young bees from the combs of the stock on the old stand, and let them run into each of the two nuclei moved away. Unfinished surplus from the divided colony may be given to the stock worked for honey to complete.

[582.] *Managing Swarms.*—I had a fine swarm on May 26th from a sectioned hive, and a second swarm, almost as large as the first, issued on Whit Monday. I find the bees have not yet taken possession of the sections. I am only a beginner, but take a keen interest in my bees, and am anxious to make them a success. The top swarm is in a skep with box top, the second is in wooden hive on seven frames of foundation, and both are doing well. The stock is in wooden hive on nine frames; there is room for two more. 1. Should I have prevented the second swarm? Do you think the latter strong enough to do alone, or should you advise uniting? If so, with the stock or swarm? 2. Shall I insert the two frames into the stock hive. 3. Can I expect any honey this season? —L. C., *Wylde Green, Warwickshire, June 30th.*

Reply.—1. The second swarm should have been returned to the parent hive early on the morning of the day following that on which it came off. It is risky for a beginner to reunite swarms with their own bees several days after their issue. 2. No. 3. If the season is a good one, the top swarm should yield some surplus, if you will take care to make the section box snug and comfortable by wrapping it up warmly.

[583.] *Drones and Swarming.*—1. Does the presence of drones in a hive predispose the stock to swarming, (2) even though there be plenty of room? 3. How to avoid drone-breeding. 4. What part of the season is the best to rear a young queen to supersede one that is either too old or a bad layer? 5. Is it advisable at this period of the year to contract the brood nest, *i.e*, not to further enlarge it when the object is the production of honey? 6. How long should breeding be allowed after the honey-flow has ceased?—E. North Lewis, *Leicester.*

Reply.—1. Yes. 2. Giving room and ventilation tend to lessen the chances of swarming considerably, but will not always prevent it. 3. By limiting the number of drone-cells. 4. As early as possible after the main honey harvest begins to fail, say, the second week of July. 5. If the brood chamber contains more than ten frames, contracting to that number may be advisable at this time, but not otherwise. 6. The longer breeding is continued in autumn the better, and if the honey-flow ceases early, the queen should be kept breeding by feeding.

[584.] *Bees in Hollow Tree.*—I have discovered a colony of bees in an old hollow tree. There seems to be two entrances to the interior, both about three inches in diameter. Looking into one of them, a piece of newly built comb is discernable. A swarm settled on or near this tree about a fortnight since, but was not 'captured.' 1. Do you think this is the one that has taken possession of the tree? 2. Can you advise me as to how I can take the bees and hive them in a bar-frame, or, later on, take the honey? I commenced bee-keeping this spring with four stocks in skeps.—Inquirer, *Norwich.*

Reply.—1. Most probably it is so. 2. All will depend on what 'command' you have over the tree. It will make a great upset to cut out the combs and remove the bees, and may involve the cutting down of the tree. If you decide to make the attempt, we will refer you to former numbers, where details of such an operation have already appeared.

[585.] *Bees Refusing to Accept a Queen.*—The following case mystifies me, and I should like your opinion on it. As I wrote to you before, out of a strong hybrid Carniolan stock on May 26th, I found the queen thrown out, dead. I examined the hive, and found no eggs, but brood and sealed brood. I then introduced a comb of eggs and brood from another hive. Two days after, two queen-cells were begun. As this showed there was no virgin queen in the hive, I introduced a pure Carniolan mated queen, which I got from a dealer on June 1st. On examining the hive, on June 6th, there was no trace of queen or eggs. I got another queen, and introduced on June 11th; and again no trace of queen or of eggs. In the meanwhile the comb of eggs I introduced had had one or two more queen-cells drawn out, but no eggs in the cells. The bees had also taken to the supers. The hive stands now full of old bees, with no brood, eggs, or queen, but with a good deal of honey. I may add that I have taken all precautions to insert queen into Simmins' direct introduction method. As I have inserted two good queens, and a comb of eggs, and young brood, and in each case the bees have rejected them, what do you advise next?—T. O. B., *Wellington, Somerset.*

Reply.—We should try again with eggs and young brood. When bees take to killing alien queens offered them in this way, as they occasionally do, it is very difficult to get them to accept one. We have known six queens rejected in succession, and, after all, the stock raised a queen from eggs given them.

Echoes from the Hives.

Northampton, June 26th.—The hopeful prospects of my last 'Echo' have not been realised, for, of the fourteen days that have since elapsed, ten were blank from a bee-keeper's point of view. Thunderstorms, cold winds, heavy rains, and a frost that cut beans and potatoes to the ground, kept the bees in idleness. On the 25th a change for the better took place, and section-taking will be resumed to-morrow. The first batch of sections was removed on the 13th; the honey is dark in colour, and in flavour something like a cross between that of common treacle and that of golden syrup; it certainly is not clover honey. The white clover of the pastures is over, but in the late meadows it has only just come into bloom, so there is still plenty of time for a good yield; indeed, in some places a few fine days will change *good* to *excellent*, for in a village close by I saw hives

with three crates of shallow frames all but full yesterday. Here, in the town, there will be, if the weather be favourable, a second harvest from the limes, which have been planted in the public walks, churchyards, and gardens in great numbers.—E. B.

Newbury, June 27th.—The bees in the Newbury district are in a fairly good condition; at the time of writing, bees are well on with sections, but there are very few swarms. The earliest honey taken I took on June 9th, comprising seventeen splendid one-pound sections from a hive the property of a keen bee-keeper, Mr. R. Prestoe.

Honey Cott, Weston, Leamington, June 27th, 1892.—The last few days we have had a decided change for the better. Bees are on the rush, as though they meant to have all they possibly can get. I have raised up all hives that have not fixed floor-boards a quarter of an inch more, so that bees can go out at the sides as well as fronts. They are all over the alighting-boards and roaring away in such a way that only a bee-keeper can understand, showing unmistakably that we shall have some honey, late as it is, if this nice weather will but continue for two or three weeks. I was at the Warwick show last week, and hoped to have met a few more of the older hands in the craft. On Wednesday I had a pleasant visit from Mr. Cowan, Mr. Carr, Mr. Garratt, and Mr. Huckle, of which the first-named gentlemen will some time have something to say. I had hoped to have seen our old friend 'X-Tractor,' and shaken him by the hand.—JOHN WALTON.

Stalbridge, Dorset, June 29th.—I started the season with six bar-frame hives, and I think they have done pretty well, only one of them having swarmed. The other five have had two crates of sections each on them, and I have taken a crate of eighteen sections off three of them.—W. H. S.

Bee Shows to Come.

July 13th to 15th.—Lincolnshire Agricultural Society, at Lincoln. 24*l.* in prizes for hives and honey. Entries close July 1st. For schedules, apply Stephen Upton, Secretary, St. Benedict's Square, Lincoln.

July 13th.—Kent B.K.A. County Show at Hawkhurst, Kent: bees, honey, and appliances, in connexion with Hawkhurst Flower Show Society. Entries close July 9th. For schedules apply J. Garratt, Hon. Secretary Meopham, Kent.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

July 26th to 29th.—Scottish Bee-keepers' Association Summer show of bees, honey, and appliances, in connexion with that of the Highland and Agricultural Society, at Inverness. Entries close July 18th. For schedules apply to John Wishart, Secretary, 5 Market Place, Melrose.

July 27th and 28th.—Leicestershire B.K.A. annual show at Market Harborough. For schedules apply to H. M. Riley, Hon. Sec. L.B.K.A., Tower House, Leicester.

July 28th to August 1st.—Lancashire and Cheshire B.K.A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool. For schedules apply to the Secretary, William Wrennall, 9 Harrington Street, Liverpool. Entries close July 1st.

August 2nd.—Leicester B.K.A. exhibition of bees, hives, and honey, in connexion with the Abbey Park Flower Show at Leicester.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries close June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. N. and T. MADDERSON (Darlington).—Comb sent is foul broody.

H. PALMER (Sandwich).—The plant sent is the willow herb (*Epilobium hirsutum*).

H. F. K. (Mill Isle, co. Down).—*Queen Cast Out.*—It is simply a case of bees deposing their own queen, as they occasionally do without any apparent reason.

S. E. SCARTH (Wakefield).—The queen is old and worn out.

F. CLARKE (St. Leonards).—*Wild Bees Breeding in Hives.*—The box contained the chrysalis and larva of one of the common mason-bees; we cannot name the exact variety without seeing a perfect insect.

E. DOUGLAS.—The Hon. Sec. of the Surrey B.K.A. is Captain Campbell, Box Grove Road, Guildford.

JAMES ROE (Keighley).—Queen sent is evidently a drone-breeder.

NEW CHUM (Nettleswell).—*Swarm in Skep.*—It is simply a matter of choice. If you desire to winter the bees in the skep, super the latter at once. If it is preferred to have them in a frame hive, set the skep above the frame, pack it carefully and warmly round the junction, and let the bees work down into the lower hive, which they will readily do if the frames of the latter are fitted with full sheets of foundation.

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Wilts Bee-keepers' Association.

THE COMMITTEE has accepted invitations to hold Shows on the following dates, and will be glad to receive others:—

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SWINDON, August 17th. Flower Show n the People's Park, New Swindon.

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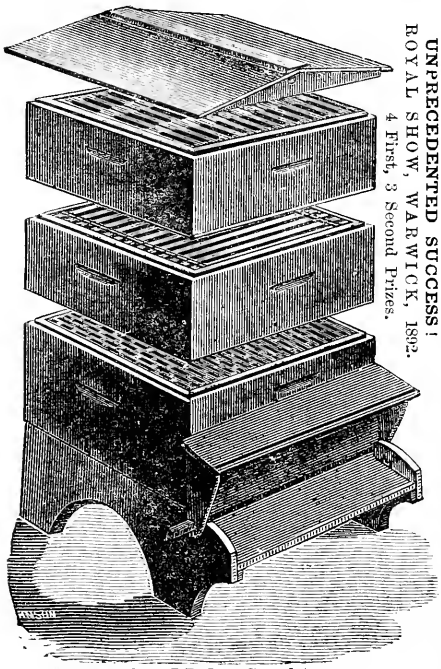

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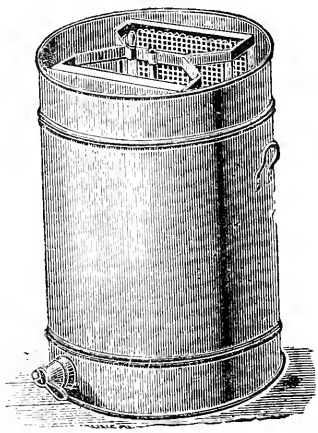

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

HELPING ON THE SHOWS.

In view of the fact that many important bee and honey shows are already arranged for in the Midland and Northern Counties, and that liberal prizes are offered for competition at them, it becomes a serious consideration how far the success or otherwise of these exhibitions is likely to be affected by the present prospects of a successful honey season in the North. Judging by such reports as have reached us, there is too much reason to fear that heavily laden show-tables will not be the rule. In fact, if there be not a marked change for the better in the weather during the next ten or twelve days, the bee-season of 1892 will be a very one-sided one indeed, seeing that such good luck as has attended bee-keeping has, so far, been almost entirely confined to the southern half of the kingdom.

We need not attempt to enumerate the particular counties in which bees have done exceedingly well this year, but we hear of a good many places where very satisfactory 'takes' have been secured, and where honey is still coming in well.

This is all the more disappointing to Northern bee-men, for they, knowing that atmospheric conditions were favourable to the storage of nectar in the blossoms, have been kept on the tenter-hooks of expectation, constantly hoping that the greater warmth of the South would in time extend northward, and so enable them to make up for lost time before all was over. Well, all is not yet over, but we are in mid-July and old bee-keeping hands know what that means if surplus chambers are still unfilled! In a word, the prospect is very gloomy indeed, except where the chances of a heather crop are possible. 'But what,' it may be asked, 'has all this to do with the subject chosen as a heading for this article?' In what way will it be 'helping on the shows' to tell of failure in the honey crop? Well, only so far as noting the fact that if bee-keepers will take the hint conveyed herein, and which has been the sole reason of our writing, they will, by assisting to make northern shows a success, help to make the bee department of such shows as are held in connexion with agriculture or horticulture a credit and not a discredit to the craft, and will prove that bees *have* been profitable stock to keep somewhere, if not everywhere.

We therefore appeal to those who have good honey housed of this year's gathering to enter it for exhibition at such shows as are held in districts less favoured than their own; not with the view of merely carrying off prizes—that is a comparatively small matter—but for the more public-spirited purpose of showing that splendid honey, and plenty of it, too, has been gathered in 1892, and thus not only helping on the general good of the pursuit, but encouraging their less lucky brethren of this year to trust that 'their turn will come next.'

We therefore urge upon secretaries of northern shows to get the time for closing entries for honey extended where possible, and, if it can be done, to also enlarge the list of 'open classes' in such districts as are not likely to have many local entries. On the other hand, we no less strongly appeal to Southern bee-keepers who have secured good harvests of fine honey to enter at distant shows—not even to overlook that of the Scottish Association, so far north as Inverness, on the 26th to 29th inst.—while the dates and other particulars of many others nearer them can be gathered from the list of 'shows' in this issue. By so doing, they will be helping on the shows and themselves too, in a small way, but, more than this, they will be helping on the cause of bees and bee-keeping, and we shall be glad to render any assistance in our power if secretaries of such shows as are likely to lack entries will write to this office, enclosing a few schedules.

YORKSHIRE BEE-KEEPERS' ASSOCIATION.

Instruction in Bee-keeping.

The Yorkshire Bee-keepers' Association, an offshoot of the British Bee-keepers' Association, is continuing the course of free education which the grant under the technical education scheme of the West Riding County Council has enabled it to institute. Already a first series of six class lectures has been completed by Mr. R. A. H. Grimshaw, the county Secretary, two of which were given at the Yorkshire College, and the others in the open air in bee-gardens. These fortnightly classes have been twice postponed on account of bad weather, but on Saturday, July 2nd, the lecturer was able to commence his second series in his own bee-garden at Horsforth. Although part of the audience consisted of bee-keepers—some coming from a considerable distance—Sunderland, for example—Mr. Grimshaw, for purely educational reasons, was compelled to start with the assumption that his hearers knew nothing whatever of the honey-bee, nor of the methods of breeding them, and their subsequent treatment as honey-producers. It was explained that the beginner in the craft should bargain with a bee-keeper beforehand, say at the end of April, for a first swarm at a price per pound, 2*s.* 6*d.* per pound being at present a fair market price for buyer and seller. The temporary hiving of the swarm in a strong skep by the seller was described, the gross weighing of the bees as they hung from its roof—accident being guarded against by a cloth tied over the whole; the wooden bar-framed hive, their future domicile; the methods of shaking the bees amongst the frames, or in front of the hive doorway, assisting the bees in their direction by brushing a few towards the opening, weighing the empty skep and cloth in order that the net weight of bees might be arrived at—these points were explained in detail. Should the novice be desirous of ascertaining an approximation of the number of bees in his swarm, he might make a rough calculation from the fact that 5376 bees have been counted in a pound weight of them. If, however, the beginner prefers to buy a stock of bees, that is, a colony of bees at home in the hive, from which a swarm has emigrated either in the present or in a previous season, he should stand near the hive on a fine day as near noon as possible, and if about sixty bees entered per minute the stock was a strong one; if also some were noticeable by having masses of yellow or other coloured pollen in the pollen-hollows on their hind legs, then the stock was prospering, pollen-bearing being a sure sign of brood, brood also proving the presence of a laying queen. The inmates of the hive, the functions and shortcomings of drone, queen, and worker, were next described, as were also the compound eye, and the hearing and smelling organs on the head of the worker. The audience were protected against possible ill-disposed bees by a large gauze screen, though, truth to tell, this was almost unnecessary, and might serve, by interfering with direct flight out and home, to bring about the very evil it was sought to guard against. Of stinging there was none. It is the intention to give the next class lecture in Mr. Dixon's bee-garden at Pannal on Saturday, July 16th.—*Leeds Mercury.*

MERITS AND DEMERITS OF SO-CALLED PUNIC BEES.

As the writer happens to have been the first to call general attention to this race of bees—under the far more appropriate name of Tunisian bees, Tunis being the native land of the race—and as he has had considerable experience with them in Tunis, and also in several other countries, he may be allowed to express an opinion as to their merits and demerits. The former are soon told, for the Tunisians are industrious and prolific, somewhat more so than any race of bees coming from Europe, but rather less so than the eastern Mediterranean races (Cyprians, Syrians, and Palestines). But their faults make a list. They are small and very black; are spiteful stingers, as vindictive as the worst race known; bite in addition to stinging; are great propolisers, daubing hives, sections, and combs lavishly with 'bee-glue;' they swarm much as do Carniolans, and winter as poorly as do Palestines.—Frank Benton, *in the 'American Farmer.'*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AN ANTISEPTIC QUILT.

[1073.] I regret that ill-health has kept me in the shade for so long, as there have been one or two matters I wished to ventilate in the *B. B. J.*, that indicated by the above heading being of chiefest importance, because I believe it to be a big factor in the prevention of foul brood.

A unique experience thrust it upon my notice. A valued friend with a large apiary was suddenly forced to break up his home, and I was invited to take to his seventy-five stocks of Cyprian and Ligurian bees, chiefly headed by imported mothers. In the emergency an arrangement was come to, and a huge furniture van was sent by road for their transportation

from Haverhill, in Suffolk, to Southall, my home. This took place early in 1889. It was a big job, for, in addition to the stocks, there was a great quantity of apparatus, altogether requiring six horses to draw the van when laden. It all arrived at Southall without accident, and then, woeful to relate, in only thirteen of the stocks was any sign of bee-life discoverable, and of these, two were past recovery, and died shortly afterwards. It was a terrible blow to the owner, who was almost distracted with this addition to his troubles. He had been in a responsible position for nearly twenty years under a board of management; had incurred displeasure and suspension; had demanded an inquiry, and in consequence of the evident friction between himself and several members of his Board, was eventually 'recommended to resign.' In the meantime he had no access to his bees, which painful antecedent circumstances had caused him to neglect, and, in the depth of winter, the great majority of them had died of starvation.

The living bees were duly cared for, but it was in the examination of the dead that my attention was arrested. They were in hives made of one-inch deal with the bottom nailed on, and each contained eight rectangular frames, wide-ended and close-fitting, each with a comb area of 11 inches by 7½ inches, covered with a square piece of asphalte felt, such as is usually called roofing felt, and by a flat crown-board screwed tightly down upon it. There was not, nor had there ever been, any other protection from the weather, and being unpainted and in the rough, *i.e.* unplaned, the weather had its own way.

The dead bees were very numerous, both in and between the combs, but there was not a particle of honey or brood. What, however, most interested me, considering the number of imported queens that had been introduced, was the fact that throughout the whole of the sixty-two hives there was not a suspicion of foul brood.

This I thought so remarkable that I subjected every comb to the closest scrutiny, but not a trace of the disease could I find. I could have given good reasons for its presence had it been there, but for its absence I could only assign one, and that one I believe to have been the antiseptic asphalte felt quilt.

I have used the same thing ever since on all my hives, and have had no reason to alter my opinion of its great health-preserving value, and during the coming winter I hope it may be largely tried. I send you a specimen of the material, and in addition to its use as a quilt I would suggest its great value as a carpet for the floor of the hive. It has, when new, the healthy odour of asphalte or tar paving; the piece I send herewith is nearly four years old, and is now almost odourless. It is a cheap material, and can easily be obtained. I have no interest whatever in its manufacture or sale, and have no purpose of my own to serve other than the pleasure of trying to be helpful. A running thought suggests that a shallow tray filled level with asphalte itself while hot, and nicely smoothed, would make the healthiest and best of possible floor-boards. These ideas, I feel sure, will be pirated, and probably patented, as original, in America, as has been done before. --C. N. Abbott, *Southall, July 5th*, 1892.

[Old subscribers to and readers of the *B.B.J.* will no doubt be as pleased as ourselves to learn that its worthy former editor has in some measure recovered from the serious illness with which he has for some time been afflicted, and that he still retains his old interest in bees and bee-keeping. We trust he may be long spared to exercise 'the pleasure of being helpful' to bee-keepers. For ourselves, we shall give effect to his suggestion in a practical way by making trial of the material for covering the frames of some of our own hives. Anything tending to reduce the danger of infection in districts known to be troubled with foul brood will be welcome, and, apart from the known antiseptic properties of coal-tar, we have sufficient confidence in the source from whence the suggestion comes to make us value it not a little.—Eds.]

THE ROYAL SHOW—DISQUALIFIED EXHIBITS.

[1074.] Mr. Garratt's letter (1068, p. 258) calls for further explanations from me to make myself understood on the matter of the disqualified exhibits. I thank the Editors for their footnote; and now that Mr. Garratt has written, they will be able to form an opinion as to the intention to deprive me of honours or otherwise. I contend that it requires no reading between the lines of Mr. G.'s fourth 'par.' to arrive at a conclusion on that point. In my 'Note' I used the term 'inscrutable,' and it appeared to my mind at that time the most suitable, though had I enlarged on the subject, and pointed out the inconsistency of the whole thing, perhaps I might have made the matter clearer to your readers. Every exhibitor and visitor who felt any interest in the matter must have seen the glaring 'inconsistency' of the judges in awarding me first prize in Class 295 (at which end the judges began their awards in the honey classes), and to disqualify me in Classes 289, 290, and 292, with exactly the same style of glazing; in fact, I selected the sections for the small exhibits from the larger one, as I was staging the latter exhibit, so that the disqualified exhibits were the best I had as regards uniformity of colour, capping, and marketability; and certainly, after reading Rule 5, the reason for disqualification was inscrutable. Rule 5 states *each section;* that, I take it, means every section in every exhibit. The reason for awarding a prize in one class and the disqualifying in other classes was *inscrutable.*

Then Mr. G., in par. 2, says, 'The judges performed their task free from prejudice and prepossession;' by the latter term, 'prepossession,' I should understand that he would have us believe he had no knowledge of the ownership of the exhibits he intended to disqualify. If standing near during the staging of exhibits by

the exhibitors does not convey 'prepossession,' I do not know what does.

In par. 3, Mr. G. covers himself with confusion. First, he admits that Exhibit 295 was in accordance with and within the meaning of Rule 5, as the class was to encourage the production of honey in a tasteful form. I must have been living in a fool's paradise the last ten years if I have been mistaken in thinking the very *raison d'être* of all classes in all honey shows has been to encourage the production of honey in a saleable, marketable form. I refer him to Rule 5, which distinctly says 'each section of honey;' and my exhibit in Class 295 was composed of some 160 sections (and a few bottles of extracted honey), each of which was glazed, with lace paper, the perforated edging of which, measuring to the extreme end of the points—which project one-eighth of an inch and are of an equilateral shape, with a small *fleur-de-lis* stamped out of each point—was in the majority of the sections four-eighths of an inch wide, but in a few, perhaps, the five-eighths may have been reached; but even in these cases the perforations and serrated edges of the paper hide none of the defects, if there are any, of a section of honey if examined critically, as one would suppose a judge to examine honey before he awarded a prize. Then, Mr. G. goes on to say, 'But when the same description of exhibits, &c. . . . the decision was come to that it must be disqualified.' Why, I ask—why must it be disqualified? Why should Classes 289, 290, and 292 be disqualified under Rule 5 when Class 295 is awarded first honours? The answer is supplied, in Mr. G.'s next paragraph, by himself. He says he has long felt that I, as a defiant law-breaker, should be punished, and he, notwithstanding his smiles and friendliness on the morning of the show at Warwick, was inwardly planning that he would inflict a summary fine on my exhibits later on; and the result was I was fined 3*l.* *as a law-breaker!* As it was apparent to every one that my exhibits were the best staged, and if it had been a *honey* show, with an unprejudiced judge, without any fads of one-eighth to three-sixteenths of an inch of lace-paper edging, I should have been awarded first in each class.

In Class 289 the judges awarded only second and third prizes. This was in nowise out of deference to my very far superior exhibit that was disqualified, but because there were only three exhibits staged—mine and two others; so that the judges only followed the usual rule of awarding second and third prizes, as the exhibit that received second was by no means a first-rate one. Mr. Garratt goes on to say that the evil of tolerating a breach of Rule 5 was made apparent at the Dairy Show at Islington last October, where there were greater sinners than even I. I say distinctly that there was no parallel in the two cases. I find no rule or condition laid down by the Association in their rules, schedules, or entry forms as to how the honey was to be glazed, or the width of the glazing, at the Dairy Show.

Mr. G. jumps to the conclusion, without any foundation, that I must, at some period, have deliberately determined to disregard the regulations. I have always considered myself a law-abiding subject, and not a law-breaker, as he dubs me; neither have I occasion to use any decorative or adventitious aid to hide defects in my sections. I took off twenty crates yesterday, and from each of the twenty I could have selected a dozen sections that would have taken first at Warwick in their barren nakedness, if that had not been against regulations. I cast no insinuations without grounds, but I have received injury from where it was least expected. I should have been satisfied if *justice* had been the leading principle — unfortunately for me it was not. I said then, and I say now, that if it was the intention of the Committee of the British Bee-keepers' Association that the rules and regulations should be adhered to strictly, due notice should have been given to exhibitors, and then any exhibitor who disregarded the notice could not have grumbled if he had been disqualified for any infringement of the same; but for the judges to disqualify the best exhibits staged in the honey classes is not a likely way of encouraging honey-producers to exhibit at another show. — W. Woodley, *World's End, Newbury.*

VITALITY OF BEES

[1075.] In the *B. B. J.* for March 31st (p. 128) is given an account of the wintering of a stock of driven bees in a skep. The uncommon vitality shown by this stock in wintering under such conditions as are there described has been further exemplified by its subsequent history. It was rapidly increasing in strength, when, at the end of March it was, in pursuance of a standing promise, transferred into the possession of a relative. It arrived at its new quarters without mishap, but on the fourth morning after its arrival the skep was found upside down upon the ground, and all the combs detached. The skep, with four of its five combs, was replaced upon the stand, but leaving the combs, as I found upon taking a look at them a week later, lying flat, one on the other, on the floor-board, or rather floor-stone! Seeing, during this cursory examination, only a very few bees, and considering what exposure the brood had been subjected to, I had no hesitation in deciding that the stock was 'done for.' It was, therefore, allowed to remain in its state of wreck. So sure had I felt of the stock's speedy dissolution that I was not a little surprised at being told on Tuesday, the 27th ult., that the bees appeared to be getting stronger. Scarcely expecting this to be a fact, I proceeded to inspect them, and found that they *were* getting stronger; in evidence whereof they had built four small combs, and had these sufficiently covered to ensure further increase. The old combs I took away.

That I saw so few bees on the first inspection is to be explained on the hypothesis that the greater number of those which had survived the catastrophe were, despite the unnatural conditions, giving their attention to the brood. Nay, not

hypothesis, but fact, for not only did I find almost all the brood hatched, but I found also a used queen-cell, built not in the usual way at right angles with the ordinary cells, but, owing to the combs lying flat, in line with them. Provided with a young queen—mated, I hope—this stock, after an unusually trying experience, is likely to pull through again.—J. MORGAN, *Pontypridd, July 4th.*

NOTES FROM IRELAND.

[1076.] I missed recording, whilst on an expert tour, one farmer in co. Carlow who keeps ten frame hives. He put on 300 sections about June 1st, and the bees had them all finished save a few pop-holes; he would not allow them to be taken off whilst the bees stayed on them, as they leave off when finished. He had ten swarms in skeps; these I sold for him at 2*s.* per pound. I drove the bees, giving each hive fifteen minutes to leave (close driving), and they did leave. When the bees were packed in swarm boxes and the hives inside, I took some of the brood and broke it to the chickens, and they did make a meal! I told the Missus to use up all the nest and give the hive again to casts. I dare say he'll make 20*l.* by his bees this year. Another had bees and honey everywhere. Some splendid swarms in skeps and boxes stuck here and there in the grass (protected with creels), the calves and lambs everywhere about, and not one receiving a single sting. His bees have got a quiet name, and others are anxious to get them. The original swarm I took out of an old ditch for him some five years ago; they multiplied exceedingly. He has furnished all his friends with bees therefrom, and he never does anything with them save hive the swarms. This is not a bad record.—J. TRAYNOR, *Bee-keeper, Tinahely, Wicklow, July 8th.*

HIVING SWARMS IN FRAME HIVES.

[1077.] On Whit Monday, about 10 a.m., while passing some hives that I help to manage, I saw an unusual commotion outside a straw skep, and almost immediately a swarm rushed out and settled in a tree close by. After giving them fifteen minutes to cluster, a friend and I successfully got them into a skep. This swarm weighed five pounds. I tried the same plan of hiving the bees into a frame hive as last year, viz., to invert the skep and place over it the hive (with the floor-board, of course, removed), and then left the bees, hoping to find them in the frames in the morning. Notwithstanding that Tuesday was very hot, not a dozen bees had gone up when I went to inspect them about 9.30. I then tried driving, and also smoking them, but with only partial success; so I determined to try another plan which I had seen recommended in the *B.B.J.*, *i.e.*, by getting a sheet in front of hive and shaking the bees on to it. This I did, although very sceptical as to the result, and I was very agreeably surprised to find the bees soon taking possession of their new home. I then put on a quilt of oilcloth, feeder containing a pint of syrup, as recommended by you, and other coverings upon these and left until evening, when I was very pleased to see the eleven frames covered with bees.—PERCY LEIGH.

SPRING DWINDLING.

[1078.] In regard to you footnote to my communication, No. 1066, I took it for granted that the merest tyro in bee-keeping would understand that feeding up in autumn was the best preventive of spring dwindling, but my recommendation was for those bee-keepers who, like myself, neglect this precaution. Am I to understand from your remarks that you object to early feeding, as I recommended?—A. T. WILMOT.

[Yes; we object to any feeding of bees at all between the end of September and the beginning of the following month of March.—EDS.]

CURING FOUL BROOD.

[1079.] I am glad to say I am now free from foul brood so far as I can discover. Two hives had a suspicious appearance three weeks ago, but are now full of *healthy* brood. I destroyed five stocks in May which were only slightly affected. I believe that where a good many hives are kept, it is the least loss in the end to do so.

Clover is half over and no honey stored; bees about here are barely keeping themselves. Heavy showers almost every day with low temperature. I propose returning to the old black bee; I have at present mostly Anglo-Carniolans which are swarming *furiously!* Plenty of room, &c., appears to have no effect in stopping them.—A LANCASHIRE BEE-KEEPER, *July 5th.*

BEES CARRYING IN HONEY AND POLLEN.

[1080.] In reference to my letter which appeared in *B.B.J.* of June 23rd (1059, p. 238), you have added a note, which I think requires some explanation on my part. It is said that 'bees never do anything invariably;' and as regards the bringing in of pollen and honey, I agree with you that bees of all ages bring in both pollen and honey. I have, however, noticed that young bees *more frequently* bring in heavy loads of pollen, while the abdomen is pretty much in its natural state, viz., unswollen. As the bees get middle-aged, on a fine day, when the pollen is in a dry, powdery state, they bring in both pollen and honey; but the abdomen is more swollen, and I think the pellets of pollen are slightly smaller. When the abdomen gets black, it is more swollen, and the pellets are smaller, in my opinion. There may be reasons for this. The young bees are, first of all, nurses, and may be more disposed when they fly to bring in pollen; and the edges

of the pollen basket may be fringed with longer and stiffer bent hairs, which in consequence allow a greater amount of pollen to be held in the pollen basket. As a bee gets old, I have no doubt that these hairs will get worn, and if any portion of the pollen which is brought in is rubbed off the back, the want of the down there will prevent any accumulation which might have been added to the pollen pellet, and the pollen basket is less roomy.

I am sorry to say, though our clover crop is beautiful, the wind and rain prevent honey from being gathered; and all those bee-keepers whose opinion I have asked shake their heads and say, 'There is no honey being gathered.'—F. M'C., *Ecclefechan, July 8th.*

Queries and Replies.

[586.] *Stocks of Bees on Forty Standard Frames.*—Within two miles of my bees are several fields, about one hundred acres in all, which a few years ago were laid down for pasture with a mixture in which white clover largely entered. These fields are now simply white with clover, and they are the same every year. The nearest of them is a little more than half a mile from my bees. 1. Do you think it would pay me to move some of my hives, another year, down into one of my own fields close to the clover referred to, or do they forage there now? My hives are tiered up three stories high, and as have not used excluder zinc, there is brood in all of them. I shall not extract for six or seven weeks yet, when it will probably be most of it hatched out. 2. Will the fact of the brood being so scattered about in the hive make any difference to the gross weight of the yield of honey? 3. If I remove the queen from a stock during the last week of July, will there be time enough for the bees to raise a young one and get fertilised? 4. If that is too late, would the middle of July be early enough? Bees are doing splendidly now; hope we shall get a fortnight like this. I have not had a single swarm yet from my bar-frame hives. Some of them are covering thirty frames, standard size; and I have one or two to which I have added a fourth lot of frames, making forty in all. The last lot I put on top, as a kind of safety valve. These are only fitted with starters; but I find the bees have taken possession, and will soon have built combs half-way down. I should not have thought it possible for a stock of bees to cover nearly forty standard frames, but they do. I have wedged the front of the hive up about a bee-space, so that they can enter all along the front; and as it gives the air an entrance too, I think it will be a preventive of swarming.—R. F., *Needingworth, St. Ives, Hunts, June 27th.*

Reply.—1. Clover half a mile away is quite within reach of your bees, and it is not worth the trouble involved in having them away from your own eye to obtain a doubtful advantage. 2. Yes; more or less. 3 and 4. Remove the queen in the middle of July, if convenient. We shall be glad to hear the result of allowing queens to range over forty frames, in order to compare with those who (as we think) wisely and judiciously restrain their maternal wanderings to ten frames, and keep the rest for the storage of honey.

[587.] My cottager friend, whose hive became queenless during last winter, has still enough of the bees left alive to cover one side of a comb. These bees were driven from two skeps into a frame hive in August last year. Who will say the bee's life is of short duration? These are probably near twelve months old. He has had a cast offered him which was hived a week ago, and has requested me to fetch the bees on Saturday next. I cannot go earlier, as it is near six miles away. What condition as to comb and brood will they then be in, after standing eleven days, and had I better place them as they are in the skep on to the frames of queenless bees, or drive them out and take skep clear away before adding?—M. S. Posnette, *Birmingham, June 28th.*

Reply.—The swarm hived eleven days will require very careful handling in this hot weather, or a breakdown will occur. We should set the skep over the frames—the latter being fitted with foundation—rather than attempt to drive the bees and transfer the combs. If the season holds out long enough to allow of the bees filling the lower hives with combs, they may be fed up for winter after the skep is removed.

[588.] *Drone Traps.*—As I constantly see complaints in your paper from bee-keepers who have no time to watch their hives, I write to say that I *think* I have done something in the right direction for them, and, not having seen or heard of its being done before, I send it for what it is worth. Having had already seventeen swarms, and united generally two and sometimes three together, I wished to prevent the queen leaving the hive, so I put a drone trap, arranged, of course, by propping it up with a carpenter's stool and bricks—anything, in fact, to prevent any other exit from the entrance of hive. Result in two days—caught a queen and drones, and so prevented a second swarm, and now, at this moment, *at the door* of another hive (which I wished to prevent swarming, as the bees are working so well in a crate of sections) is a swarm, and all the drones and, I expect, queen in the trap. Please tell me one thing, *when* should drone traps be put to catch *drones?* I do not wish to stop queens mating.—R. W. Heathcote (Major), *Ringwood, July 2nd.*

Reply.—Drone traps are a thing of the past; they should never be used or needed where attention is paid to limiting the number of drones in each hive to just a score or two.

[589.] *Skeps on Frame Hives.*—A neighbour of mine borrowed a skep from me to hive a swarm in; subsequently, in exchange for an old

frame hive, he returned my skep with the contained swarm (which was a very large one). I placed the skep in my garden, and left it two days without any interference. To-day I wished to transfer the stock to a frame hive. I intended to drive the bees from the skep, but found it at least half full of new comb, some of which contained brood; so I put the skep bodily over the frames, filled with combs or sheets of foundation, packed it well round with sacking and put on the roof, and the bees took to the new hive readily. 1. How soon would you advise me to look at them again? 2. If I find brood on the frames, shall I be justified in concluding that the queen is downstairs, and putting excluder zinc between the skep and frames? 3. I find many of my bees on the *leaves* of the plant enclosed, while many wild bees are on the *flowers*. Can you tell me what the plant is called, and why do not mine touch the flowers, but only the leaves? What do they gather from them? 4. Is it true that the flowers of thistles poison bees? 5. If at the end of the year you would care to hear the experiences and results of a town-bred man in his first year's attempt at bee-keeping with four stocks, I should be very pleased to communicate them.—NOVICE, *Newark-on-Trent.*

REPLY.—1. Not sooner than a fortnight from date of setting on the skep. 2. Yes. 3. *Stachys lanata.* Hive bees as well as humble-bees gather honey from the flowers (not leaves) where no more attractive forage is within reach. 4. No. Thistle honey is largely gathered by bees in Canada and other places where the plant is plentiful, and is fairly good. 5. We are always glad to receive any news likely to interest bee-keepers.

[590.] *Queries on Swarming.*—1. If a queen does not leave her cell for fifteen days after a swarm issues, why do second swarms often leave about the ninth day? 2. My first swarm issued on June 8th, from a skep which has been threatening to swarm again from the 15th until to-day (the 30th), without doing so. Can you say what this means? 3. The top swarm (which is in a frame hive) having an old queen, would it be best to keep the second swarm in a skep, and add them to the frame hive later on? 4. If I belonged to a B. K. A., how often could I have an expert to settle my bees?—if not, what is usually paid to a man for driving, transferring, &c. 5. Would syrup or honey in contact with zinc be poisonous to bees? 6. Is a smoker or a carbolic fumigator the best subjugator?—L. M., *Herts.*

REPLY.—1. Because the young queens are several days on the way towards maturity before the top swarm comes off. 2. It means that as twenty-two days have elapsed no further swarming will take place, and if the bees hang out in warm weather more room should be given. 3. If the queen with top swarm is so old as to be declining in prolificness, it might be advisable to unite the bees and queen in skep to the frame hive, not otherwise. 4. We must refer you to the Secretary of the Association you propose to join. 5. No. 6. We prefer a smoker.

[591.] *Bees in Hive Roof.*—About three weeks ago I left my four stocks of bees in charge of the servants while I was away from home, with instructions in case of a swarm issuing, which, as I expected, happened; a hive with six frames of foundation, one of sealed store, I left in readiness. The swarm was successfully taken in a skep and thrown into the body of the hive behind the frames (there being no dummy), and covered. The bees, however, would not take to the foundation, but managed to get to the roof, where I find, on my return (about ten days after the swarm), they have quite established themselves and built a large amount of comb, which I find is well filled with brood and stores. Driving them, which of course means destroying the brood, would throw them back considerably, and I should be glad to have your very valuable advice as to the best course to adopt under the circumstances.—*Newport, Mon., July 5th.*

REPLY.—It is so common an occurrence for bees to take possession of the highest part of any receptacle in which they may be housed, that it need cause no surprise to find them in the roof as described. We advise their being left where they are till about the end of September, when the combs will be in fairly good condition for transferring to the frames. In doing this, if the roof be lifted off, and the bees quietened with a little smoke, it may be turned carefully over *in the direction in which the combs run*, and, when reared up against the flight-board of the frame hive, the bees may be driven up by tapping the roof till they run in. This done, the combs may be transferred in the usual way.

[592.] *Supposed Foul Brood.*—Referring to my 'Dwindled Hive' (560, p. 229), I united it with a rather small swarm we found in the garden, as I could find no brood or trace of Italian queen anywhere. This occurred on the 8th June, and the bees 'united' most harmoniously. To-day (2nd July), I have examined the hive again. It has eight combs nearly all full of sealed and unsealed brood and honey, and thousands of young bees. It has all the appearance of a well-populated, healthy hive, but for the piece of comb which I send for your inspection, and which is, as you see, diseased—foul brood, I suppose.—1. On the floor-board (which was quite clean, and which I pulled out) I found two dead workers and the insect sent, which I think is a young queen. Am I correct? We saw no trace of queen-cells, nor did we see the queen (though there must be one, and a good one, too, in the hive). 2. Is not this quite freshly started comb so diseased a very mysterious affair? My first swarm (the six-pound one) has filled all its combs, and I have added the queen-excluder and six pound sections, but the bees have not yet begun to work in them.—Everyone here says it is a terribly bad year for the bees; there being no rain, there is hardly a flower anywhere. Hay is eighty francs for the

hundred bundles (a bundle weighing sixteen pounds) instead of thirty francs, and so on, so the poor bees can find but little to gather. Thank goodness, my bees are so well provided for.—GISORS, *Gisors (Eure), July 2nd.*

REPLY.—1. The 'insect' sent is the Italian queen which you failed to find in the first instance. She seems to have met with some injury to her abdomen, which may account for her ceasing to lay. 2. The comb sent is perfectly healthy, and contains only newly gathered pollen.

Bee Shows to Come.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries close July 15th.

July 26th to 29th.—Scottish Bee-keepers' Association Summer show of bees, honey, and appliances, in connexion with that of the Highland and Agricultural Society, at Inverness. Entries close July 18th. For schedules apply to John Wishart, Secretary, 5 Market Place, Melrose.

July 27th and 28th.—Leicestershire B.K.A. annual show at Market Harborough. For schedules apply to H. M. Riley, Hon. Sec. L.B.K.A., Tower House, Leicester.

July 28th to August 1st.—Lancashire and Cheshire B.K.A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool. For schedules apply to the Secretary, William Wrennall, 9 Harrington Street, Liverpool. Entries closed July 1st.

August 2nd.—Leicester B.K.A. exhibition of bees, hives, and honey, in connexion with the Abbey Park Flower Show at Leicester.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries closed June 25th. For prize lists and entry forms apply to Marshall Stevenson, Secretary, York.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Other shows in connexion with the Notts B.K.A. will be held at Hucknall Torkard, July 26th; Southwell, July 28th; Beeston, August 1st; Thorneywood Chase, August 11th; and Mapperley, August 1st and 2nd.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

HENRY ALLEY.—Our space is too valuable for us to publish all the rubbish printed in some of the gardening papers. The article you send is evidently intentionally meant to mislead, as you seem to forget that Mr. F. Benton entirely altered his views when he became better acquainted with Carniolan bees. Perhaps you will reprint in your paper what he says in the *American Bee-keeper* for July 1891, p. 98, on 'The True Colour of Carniolans,' and let your readers know the truth about them, more especially when he says that pure Carniolans are 'wholly free from yellow bands,' and that the bees offered in your country 'under the name of "Yellow Carniolans," or "Golden Carniolans," are simply hybrids.' It is perfectly well known that Mr. Cowan was abroad during the whole of the controversy, and did not enter into it at all, so that, like many other things emanating from the same quarter, there is no truth whatever in the statement that he 'had to have his say.' It no doubt serves the purpose of some persons to throw mud at respectable people, but they cannot complain if it all sticks to themselves. You say, alluding to the article you have thought fit to reproduce, 'I have mailed copies of the above to all papers devoted to bee-culture and printed in the English language. None of them, in justice to me, can reasonably refuse to give it space in their columns.' Comment is hardly necessary when we find that not one respectable bee paper has reproduced this article, even at your request; but it does show that they know how to estimate the value of the source from which it was derived, although you seem to be incapable of doing so yourself. Depend upon it honesty is the best policy, and that this only has been, and will be, countenanced in the *B.B.J.*

S. KNIGHT, JUN.—Mr. Huckle, Kings Langley, Herts, will, on being applied to, furnish all particulars as to third-class examinations for experts' certificates.

W. W. SNOW (Stalbridge, Dorset).—Bees sent have been subjected to a severe 'mauling,' as evidenced by their torn wings. There is also not a morsel of food in the abdomen of any. It seems more likely, therefore, that they are bees from other stocks killed in the attempt to fraternise with those of the hive from which they were cast out, than that they are suffering from disease.

A NOVICE IN BEE-KEEPING (Hatfield).—The fact of the bees having swarmed twice interferes very much with the chances of securing surplus honey. Had swarming been prevented, no doubt in such a season as this a good crop would have been harvested, and you may yet have some surplus, but the division of the colony into several swarms of course reduces the harvest very considerably.

E. C. R. WHITE (Salisbury).—*Queen cast out after Swarming.*—The queen sent has been ruptured in some way, as well as having an injured wing. Under such circumstances bees will generally cast out queens which have been injured. You must leave them to raise another queen. Stocks may be re-queened in autumn or in spring as convenient. We should not be very anxious to kill off queens of 1891 which 'have done exceptionally well this year,' unless we had surplus queens on hand. If you can raise queen-cells in your own hives for re-queening, do so instead of purchasing.

A. D. SCOTT (Ventnor).—The bees in skep are evidently not strong enough in numbers to make them take to the frame hive below. If they make sufficient headway to want more room, they will do so, no doubt; meantime, are you sure the skep had not swarmed before you purchased it?

ERNEST A. S. COTTERELL.—*A Beginner's Queries.*—1. Comb sent is diseased. The smell of foul brood is often very offensive, but we cannot exactly say 'what the smell is like.' 2. Naphthaline is sold in so many forms and of such different strength that we can only be responsible for the effect of such as we have seen. In some forms it is rather dangerous in use, and we have had instances of brood being killed by its use in a too powerful form. 3. Bee-houses, if not kept clean, *do* harbour insects. 4. There is nothing unusual in a few dead bees being thrown out.

A. MITCHELL (Bristol).—*Bees Deposing Queens.*—There is no accounting for bees occasionally deposing queens as in your case, and it is an undoubted fact that they do so more frequently than is supposed. They will no doubt raise a successor to the queen thrown out.

ERRATA.—In first paragraph of 'Useful Hints' last week for 'Sussex' read *Essex;* and on p. 258, in last paragraph of M. Baldensperger's letter, for 'hornets' read *locusts.*

*** *Several articles, queries, &c., are in type, and will appear next week.*

BEE TENT ON HIRE.—For Terms apply to G. GUNSTON, Hon. Sec. Wotton U. E. Bee-keepers' Association, Bradley Green, Wotton-under-Edge, Glos. 4175

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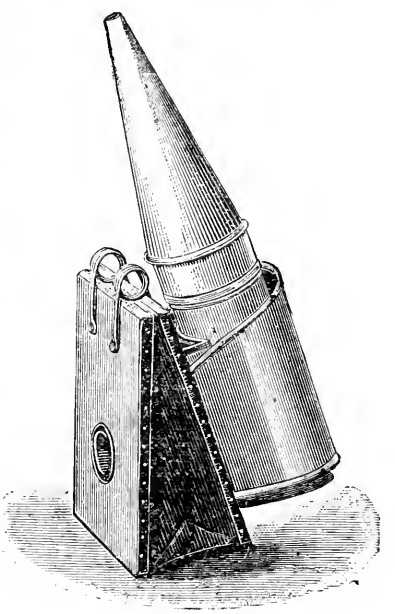
SUPER CLEARERS.—Our Perfection, with printed directions, delivered, **2d.** each; **10d.** half dozen; **1/6** dozen.

SUPER CRATE.—Neatest and warmest, fitted with 21 1-lb. Sections, with whole sheets of Foundation; Spring Dummy, carriage paid, delivered at your own door ready to put on, **4/6**.

SECTION SUPER.—For top of Skeps, fitted with Roof, well painted, staples and pins for fixing, fitted with Sections containing whole sheets of Foundation, Dummy-spring, &c. Holding 15 Sections, **6/6**; 30 Sections, **9/6**, carriage free, delivered at your own door.



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Wilts Bee-keepers' Association.

THE COMMITTEE has accepted invitations to hold Shows on the following dates, and will be glad to receive others:—

MERE, August 1st. Temperance Fête.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 526. Vol. XX. N.S. 134.] JULY 21, 1892. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Shortly after our last 'Hints' were written the weather in the South took a turn, and for several days was all against the bees; though surrounded with abundant forage, the nights were too cold and most of the days too dull and gloomy for them to make any headway. Consequently, there was a perceptible falling off in the income, and the prospect of anything like a good yield from the limes, then just showing their earliest bloom, became proportionately lessened. After the 14th, however, the temperature again rose and with it the bee-keepers' hopes of a still further addition to the season's crop in places where, like our own, lime-trees are numerous as well as showing a very large crop of bloom.

At the time of writing the weather is again favourable for honey-storing, a short ramble within our own bee-radius on the 16th demonstrating very clearly the fact that the limes were yielding well, if the lively hum of the thousands of busy little labourers at work on them as we stood underneath meant anything. Clover also is still blooming quite freely around here, the quantity of young flower-heads visible giving promise of it holding out for another week or ten days. That it is yielding honey well was apparent from the number of bees on it; indeed, we do not think our bees have done a busier day's work this year than they did on the 16th inst., when from 7 a.m. to 7 p.m. wide entrances were crowded with a stream of bees coming and going. But then twenty-four hours later it was as wet and cold as it had previously been dry and warm. Next day (the 18th) it was as warm and sunny as need be, and so our fickle weather goes up and down, making it impossible to calculate for even a dozen hours in advance.

REMOVING SURPLUS.—So far as the season has gone, we have relied entirely on the simple cone clearer affixed to the ventilating holes in hive roofs for removing bees from surplus chambers. Should the need occur later on for clearing supers in cool or wet weather, we shall use a super-clearer of the American type, by means of which the bees leave the super by descending to the brood chamber below, and cannot re-enter the former; but wherever the plan of taking off honey in the early morning is followed, and the bees have a fine day before them in which to 'clear out' and return to the hive by the ordinary entrance, we have no hesitation in saying that the simple cone clearer referred to above, which costs about twopence, does the work as effectively as the most costly and complicated one. While on this subject, a word may also be said as to the difficulties and the annoyances sometimes occasioned, not only to bee-keepers themselves, but to neighbours also, when honey is being taken from bees. That such trouble *is* experienced few among the less expert of our readers will deny; but we maintain that there is not the least occasion for it when the operation is performed in the right way. If this were not so, how is it that our largest bee-keepers can take honey off in any quantity, and we never hear of *them* causing their neighbours to keep doors and windows closed for hours in order to shut out angry bees, or of stings dealt out all round to children, poultry, and men and animals generally? No; they bring about none of these mishaps, because of exercising care and common sense in going about their work.

In all cases, therefore, where bees are kept in close proximity to the dwellings of neighbours, those who lack the necessary experience—when going about bee-work of this kind—should endeavour in the fullest sense to observe the maxim of 'making haste slowly,' and do nothing in a hurry; banging the bees about when taking honey is as fatal to comfort as it is to well-doing. Besides, there are odd occasions when bees will angrily resent interference, and at such

times they should be left alone; a day will frequently make the greatest possible difference in working with them, and operations may be performed with ease which, if persisted in at the wrong time, would be most troublesome. Another point to be observed, under the special circumstances above referred to, is to remove all honey, if possible, in the early morning before the bees have started work for the day. Beginning, say, at six a.m., by very quietly removing all *impedimenta*, the surplus chamber is gently prised up at each corner with the point of a screw-driver, a thin wedge of wood being slipped in as the screw-driver is withdrawn; when all four corners are wedged up, a puff of smoke is blown in at the aperture at each side, and then with a screwing motion — to avoid lifting out the frames below—the surplus box or crate of sections is lifted off and set down for a moment on a stand ready for it, while the exposed bees are driven down off the tops of the frames by means of a little smoke, preparatory to putting on the quilt which is to separate the hive from the surplus chamber just removed. This done, the latter is replaced, its top covering removed, the roof, with its cone affixed, is set on, and the work is done, the bees in the hive below meanwhile being seemingly unconscious of what has taken place. Those in the surplus chamber leave it by degrees and make their way back into the hive, the work of which is never interrupted. The whole operation only takes a few minutes, and the bee-keeper returns in the evening to find the honey freed from bees and ready for removal indoors with a minimum of trouble and an entire avoidance of anything like an 'upset' in the apiary.

If a whole volume was written on 'taking honey,' no improvement could, we think, be made on the above simple procedure, and we say this after considerable experience. Moreover, if the plan is carefully followed, there is, as we have already said, not the slightest reason why bees should be more troublesome to neighbours when honey is being removed than at other times.

Precautions against Foul Brood.—How much the labours of the Editorial department of this *Journal* would be lightened were we able to impress all its readers with a due sense of the nature of that bee-plague few can guess, but, all the same, we have a very genuine appreciation of it ourselves, and it requires us to bear continually in mind how different are the eyes with which our paper is read. For instance, after all that has been printed and published in our pages on that gruesome subject, a correspondent writes:—'I have got foul brood: would you advise me to lift the frames into a fresh hive and treat with naphthaline?' Of course we reply by observing that changing the hive while preserving the disease in the combs is not likely to effect a cure. Naphthaline alone, also, is no more than a preventive of the spread of disease, and has been plainly described as such, and so it is evident that our correspondent has not read up the subject of foul brood, or inquired into its nature at all. Would that it could be got rid of in this easy way, but until the real character of the disease is in some measure understood by our readers, together with the need for precaution in preventing the infection of healthy colonies, the best intentions on our part will do but little towards affording real help in curing it.

TO OUR READERS.

With much regret we have to announce that in consequence of continued ill-health our Mr. John Huckle has been compelled to give up active work for a time, and seek rest at the sea-side.

We are sure that Mr. Huckle's many friends will heartily wish to hear of his return with restored health, and in order that he may enjoy perfect rest while he is away we ask that correspondence usually addressed to King's Langley may be forwarded to 17 King William Street, Strand, W.C.

SENDING BEES BY POST.

Our attention has been called to an article under the above heading appearing in the *Journal of Horticulture* of the 23rd June, wherein Mr. Hewitt states that he has secured for every one a most valuable and important concession, viz., that of live bees being allowed to go by parcel post. We are in a position to say that there is no truth whatever in this statement, and that no concession has been obtained for bee-keepers other than that which has been enjoyed by them since the Inland and Foreign Parcel Post was established. All the concessions hitherto obtained have been through the initiative of the British Bee-keepers' Association, who appointed a deputation, of whom Mr. Cowan was one, to wait upon the postal authorities. We have no doubt the Association will leave no means untried to have the remaining restrictions—now being constantly evaded—as to bees being sent by letter post, removed.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of June, 1892, was 3691*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

NOTTS BEE-KEEPERS' ASSOCIATION.

TECHNICAL INSTRUCTION IN BEE-KEEPING.

We are pleased to learn that the Notts County Council have awarded the sum of 40*l.* to the above Association for the purpose of furthering technical education in bee-keeping in the county. It is proposed to expend the sum of 20*l.* in providing an outfit of bee-appliances, and the remaining 20*l.* for lectures.

HEREFORDSHIRE B. K. A.

The bee-van of the above Association is, we learn, still continuing the work of imparting instruction in bee-keeping, under the auspices of the County Council. Mr. Meadham, the appointed lecturer, this week visits Kingsland, Orleton, Brinfield, Luton, and Stoke Prior, giving demonstrations in practical bee-keeping, at four o'clock each afternoon; and a lecture from the van platform in the evening, at seven o'clock.

IRISH BEE-KEEPERS' ASSOCIATION.

At a Dog Show held at Kilkenny, on 21st and 22nd June, the bee-tent of the Association was erected, and Mr. M. H. Read gave a series of lectures on Modern Bee-keeping, illustrated, as usual, by manipulations. The weather was most unfavourable. In spite of this, however, more than a hundred persons attended, some of whom showed by their questions that they were thoroughly interested in the subject.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'THE EDITORS of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.*' *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1081.] We are now nearing the end of our honey harvest. The limes are in full blossom, and the fields are white with clover bloom also; but the weather! Well, the weather is simply cruel, and has been in this district for the past month. Crates of sections put on the hives a month back on strong colonies are not yet finished, and in some cases scarcely begun, and now the limes and aftermath are in good condition we are getting cold, dull, unsettled weather, with thermometer at 53°, and the apiary quiet and still as a lone land.

Our crop of honey will not be much more than half what it was last year, though up to the present the quality is good. I was very pleased to see by *B. B. J.* a fortnight ago that our Editor has had such good takes of honey, and trust others in his district have done as well as he has. The weather must have been more favourable in the south-eastern part of England for honey-gathering than in this and more northern parts of the country.

I hear (privately) that in some parts of Scotland bees are doing well, and they are hoping to have a good season with the heather next month.

It was with glad surprise I saw the old familiar signature (to 1073), and depend upon it there is *something in antiseptic quilts*, especially in districts where the pest is known to be located. 'Prevention is better than cure,' says the old adage; and in cases of foul brood it is true a thousandfold.

I think it incumbent on those amongst our fraternity who have had the pest and have cured it and got free from it, to give their remedy and method of application for the benefit of others who have not been fortunate in eradicating it from the apiary. Is the use of naphthaline in the hives during the summer months as an antiseptic calculated to flavour with its aroma the honey that is gathered during its presence in the hives? I saw some naphthaline at a friend's some time back, and it struck me afterwards that its use might give a flavour to the honey if lumps of it were in the hive; though on the same line of reasoning the effluvia from foul brood would be as likely to contaminate the honey as would naphthaline to affect its flavour. Perhaps those who have tried the remedy will give us their experience on the point.

It is very gratifying to hear through Mr. S. K., jun., such a good report regarding the health of the bees in his immediate neighbourhood of Newbury, and I trust to hear of fair takes of honey for the season.

Self-hivers of various patterns are now before the bee public—some simple and some complicated. I had one sent me for trial, but I am sorry the swarm has not come off, therefore it will have to wait another year before it can be put into actual practice, as our swarming season is coming, if not come, to a close for 1892. Mr. Root, editor of *Gleanings*, has had two of Pratt's automatic hivers, and in both instances has been successful in hiving the swarms, one of which came out during church-time on a Sunday. This hiver is placed under the hive proper, with a board between the brood frames

and the box for swarms, and in this board is a triangular piece of excluder zinc, brought to a point or cone, with three or more augur holes. The bees work out and in at the entrance as usual, except of course through excluder zinc, and up through the swarm box to the brood chamber till swarming-time, when the queen rushes through the holes in the board and out at the point into the swarm box below the excluder at entrance, preventing her taking flight. The bees flying cannot find their queen and return to the hive, and the swarm box being filled with frames and foundation, and the queen being a prisoner there, they start work just as a swarm would do if hived in the usual way; this, I consider, is a point gained. Space to-day forbids my saying more on self-hivers; another week I would like to point out some of the advantages of these appliances, and also give my ideas of Mr. Hooker's hiver at Warwick show. —W. Woodley, *World's End, Newbury.*

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

[1082.] Mr. A. Hamer (p. 238) does not answer my inquiry as to when the general annual meeting will be held, neither does he say when members may expect the report and balance-sheet for last year. He suggests, however, that I should refer to the Committee for the information. Now the Committee meetings are held at too long intervals—in fact, there has not been a meeting for more than ten months —and under the circumstances I think it the 'wisest' course to direct attention to its 'slothfulness,' as Mr. Hamer terms it, through the medium of the *B.B.J.* Mr. Hamer says that 'members should take an interest in their Association.' Well, I have long done so, and in the past I have advocated the claims of the Shropshire B.K.A. by voice and pen in many ways. Last year I induced four new members to join, and it is because two of these have asked me several times recently as to the progress of the Society, and complained that they had not received the report and balance-sheet for 1891, that I ventured to remark on the apathy of the Executive.

Does Mr. Hamer think my action unjustifiable, or is he of opinion that the rules should be ignored, the annual report and balance-sheet become a dead letter, or that the interests of the Association only require the Committee to meet once a year? I have had some fourteen years of honorary secretarial experience and I maintain that in order that members should be kept 'in touch' with each other it is necessary that they should be called together at least annually, and the officers and Committee quarterly or oftener.

There are always matters pertaining to apiculture that are worthy of consideration, and, if Mr. Hamer and others had taken a real interest in their Association, the result of the application to the County Council last summer would have been known long before this.

In conclusion, I may tell Mr. Hamer that I am a 'worker,' not a 'drone' or a 'grumbler,' and I am prepared to put my shoulder to the wheel and work for the good of the Shropshire Bee-keepers' Association.—Interested.

THE OTHER 'HUT.'

An Editor's Bee Garden.

[1083.] It is so long since an article emanated from 'the Hut,' that your readers will have forgotten the continued existence of 'X-Tractor,' whose mission it used to be to give them a description of noteworthy bee-gardens. The apiaries of Messrs. Abbott Brothers, T. B. Blow, G. Neighbour & Sons, and of the late Rev. Geo. Raynor (the 'Useful Hints' of his day), have already been visited and written upon quite voluntarily on my own part (pardon me dropping into first person, or some one will be dropping on my literary corn for using worse grammar than usual). Well, then, after a long lapse of time since my last deliverance on bee-gardens, I had the opportunity of accepting a hospitable invitation to 'come and see the strawberries' in Kent, under the guidance of no less prominent a bee-keeper than your worthy self, W. Broughton Carr, of pleasant memory. Never shall I forget the many episodes of my visit. How we walked over the gently rising undulations of the chalk downs near Orpington —at least, I call them chalk downs, for never have I seen a series of rounded knoll-like hills without finding chalk-loving plants on the surface, so I guess 'eggs' where I see shells.

I was quite surprised to see so many strangers in the flora of the district, things which were present to the mind only as read of or seen in pictures. You took me through fields of straw-plants in full fruit; hundreds and hundreds of acres there were of raspberries, strawberries, gooseberries; currants red, currants black, and currants white; all kinds of tree fruits were there in such plenty that the woods and plantations of most districts were, with you, nearly all fruit-trees. Even when we got into the woods proper, the undergrowth was mostly nut-trees. But what a disappointment it was to me, so fond of strawberries too, to see such tempting fruit one couldn't pull without stealing! Then we came across swarthy Egyptians, armed with horse-pistols, hiding in just such hollows as they love; every now and then a loud report tells us they are there to shoot at 'fruit-thieves,' and this, mark you, in free England, in the garden of merry England, in the land celebrated for its beauteous ladies, its magnificent horses, and the love of Terpsichorean pastimes. Let me make myself plain. I mean, nut-brown maids, Kent cobs, and Kent 'hops.' You made my mouth water, and myself to suffer the tortures of Tantalus, by pointing out specially fine fruit I was just as quick at seeing as yourself, and graphically described the splendid 'welcome to strawberries' given by Dr. Bartrum last

year to bee-keepers. However, I got my reward at the journey's end by eating your own grown fruit. You said, 'We wouldn't look into hives until we had settled down a bit in your homestead,' yet, like a true bee-keeper, you could not wait, you were so anxious to be 'at it,' and get to know what the bees were doing, and had been doing, since morning. Among the scores of bee-gardens I have visited, yours is the first I ever entered down a flight of steps!—and, stranger still, you have, of distinct set purpose, all your hives under trees, the fruit-trees in the orchard bee-garden.

Thus do you suit yourself to your surroundings, and modify the hard-and-fast dictum so often given out, 'No hives under trees.' So it ought to be, but I quite agree that this law may be broken occasionally with advantage, as in the case of your 'hut' garden, on which a southerly sun strikes remorselessly in a hot furnace-like valley, in a scorching southern county. What but swarming could result from such an aspect, and what better could you possibly do to minimise the evil than place the hives so cunningly under the shade of trees, where they will not catch the drip of the leaves, and where the light and tempered warmth come filtered through the green network? It was well thought out before the step was taken of so placing them; how the leaves would protect them in summer, whilst in winter the bare branches kept the hives warm on bitterly cold nights, by preventing the radiation into space of the heat the earth had absorbed in daylight or in sunshine.

And then I found what 'I went out for to see'—what everybody would expect to see in an editorial bee-garden—hives the perfection of neatness, uniformity, and completeness. What struck me most was the *exceeding* deliberation and calmness exercised in manipulation. Compared with that of other noteworthy bee-masters, it, at first sight, seemed excessive; but when one saw how 'tame' the bees were, the truth of your teaching that it is almost impossible to be too easy, slow, and steady, even in the least manipulation, came back to me with full force. The bees, frames, and sections were handled as the angler's worm ought to be when carefully impaled on the hook—as if you loved it.

It might be thought that sections and shallow frames three stories high, and raspberry honey coming in at such a rate on the 2nd July that it was determined to 'mix it in' with the rest in autumn, would make me envious when I thought of my bees 'up and doing nothing' in my district, nearly destitute of good bee-fodder; but I am so much advanced in years that envy (upon which I wrote my first essay) now finds but little place with me.

Shall I invade the sanctity of your home, and tell your readers how we spent the evening, sang glees together that brought back sweet memories of days and people 'far away,' until far into the night? No more; nor will I attempt to put into words the thoughts that passed through my mind as I heard the still young voice of your life partner. Then starting out at seven o' the clock on a brilliant Sunday morning, three of us had quite a long walk—and didn't we give to and take from each other a lot of information, that's all! That is the time of day when the mind best responds to the clear, bright morning, and reflects in incisiveness the sharply cut lines of everything the eye lights upon: bees, botany, chemistry, how to plant hops and grow currants—what didn't we talk of? You couldn't tear yourself from the subjects you liked, and guide us to the physical food you knew was waiting for the attack. Eight-and-twenty hours had slipped by, and I found myself again in the hot, odoriferous streets of London, as one just waked out of a dream, one of those pictures of bees and flowers amidst lovely surroundings, framed in such a scene of domestic happiness as would lead even the cynic to say that life, after all, *is* worth living.

I cannot give your readers any information that might be of service to them, gleaned from the conversations we had. Is it not 'recorded' in the chronicles of the *B. B. J.*?—are they not contained in the chapters of 'Useful Hints,' written by *you* in *your* 'Hut,' and read in mine by—X-Tractor?

BEDFORDSHIRE BEE-KEEPERS' ASSOCIATION.

[1084.] A wet day on the 13th prevented us doing much at our show, but I managed to give one short lecture during the few minutes the rain ceased falling. My eldest boy (eight years old) drove the bees from a skep like a man, in the tent, while I was talking. The tent was crowded, and the people were very much interested in the lad, his face being dotted with bees continually. He was perfectly successful in getting them out almost to a bee.

Though our Association is still rather crippled for funds, we are not yet downhearted, and I am looking forward to the time when we shall be able to resume our affiliation with the British. I believe the best bee-keepers in this part have done well this year; I can speak in this matter safely for Bedford town.

I may tell you that the County Council of Bedfordshire is now making arrangements for me to give lectures on bee-keeping in various parts of the county shortly, so that this will, no doubt, tend to increase our membership. I hope it will, at least. We have now got a good working Committee, as was evidenced by the willingness they displayed last week at the show; and if they will only put their shoulders to the wheel, success is certain. One thing I have suggested recently is the idea of having an apiary in Bedford, at some convenient place, entirely in the management of the County Council, and fitted up, as a bee-garden should be, with all that is necessary, kept in proper condition, and open at suitable times for lectures, bee-chats, &c.; of course, a netting protection for visitors.

I think, if manipulations took place under such circumstances, much good must result. All kinds of experiments could be tried, and lessons practically illustrated. The 'Expert and Foulbrood' scare could be buried, and bee-keepers would be able to learn how to handle bees themselves, instead of depending so much upon the expert's visit, as they appear to do now.—WILLIAM RUSHTON, *Hon. Secretary, Bedfordshire B.K.A.*

AFRICAN BEES.

[1085.] I have not been able to write before, and you will excuse me when you know that since you were here I have had a great deal of work in my different apiaries, and that this work has been doubled on account of the war we have had to wage against the migratory locusts, which invaded us again this year, in less quantities than last year, but still in sufficient quantities to do us much harm. Half our vines and grapes are devoured, and all the flowers were destroyed, so that there was no honey from this source. At last, I am pleased to say, we have got rid of our pests, and I profit by writing to you.

You said you would remember your visit here. I only regret one thing, and that is that you did not remain longer with us; and I still hope that you will come another year and stay at least a week, if not more, at my house. You were unfortunate to visit us during a season when the bees are bad-tempered. I have had weak hives very bad-tempered and sometimes strong ones very quiet, but in some seasons all, or nearly all, are very vicious.

I am at the service of amateurs who wish to try our race to send them queens. The children would be glad to have specimens of the photographs you were good enough to take here. Can you give me the scientific name of the reptile you took away with you? As you collect insects, if you like I will send you some scorpions, myriapoda, and coleoptera.—P. FEUILLEBOIS, *Algeria.*

ROYAL AGRICULTURAL SHOW.

DISQUALIFIED EXHIBITS.

[1086.] Your editorial footnote to Mr. Woodley's remarks (1065, p. 248) was, to my mind, kind and conciliatory, at the same time firm, upholding the decision of the judges in carrying out the rules set forth in the schedule placed in their hands.

Mr. Garratt, one of the judges at the Royal Show at Warwick, has since thought it necessary to answer Mr. Woodley (1068, p. 258) in a more aggressive manner, and in doing so calls in question the action of judges at other shows, more particularly referring to the Dairy Show. As one of the judges at that show, I would say that the schedule given to us contained no rule restricting the width of the paper, and the prizes were awarded after a thorough examination of each section, which the paper edging did not prevent our doing, except in one case. Mr. Garratt was an exhibitor at the Dairy Show, but I did not hear that he had made any protest against any award of the judges. Complaints or protests ought to be made at the time, before the exhibits are removed, when the question can readily be decided, and not nearly a year after.

Surely it is a mistake for a judge to allow himself to be drawn into a controversy in print in justification of awards which he has given to the best of his judgment.—JOHN M. HOOKER, *July 15th*, 1892.

BEES IN THE NORTH.

[1087.] It was a real pleasure to me to read 'Useful Hints' on July 7th. You commenced by saying, 'We have now had, for over three weeks past, about as fine weather for bees as can ever be hoped for in our changeable clime.' Whilst we have not had the keen night frosts to the extent of damaging or blighting our potato crop (I have not noticed a single haulm blighted), the nights have been very cold, and our real bee-weather so far has consisted of four days, viz., 6th, 7th, 8th, and 9th of June. On the evening of the 9th, while strolling through the fields, in company with a veteran bee-keeper, we were remarking on the settled appearance of the weather—not a cloud to be seen—old Sol setting in all his glory. But, on Friday morning, the 10th, oh, what a change!—cold and raw, with a sea-fret, making everything cold and damp. Since then it has been rain more or less every day, and this last week heavy gales, so that bees could not get out. It is very annoying, with the white clover so abundant and the bees generally in strong condition, not to have heard of a single section or a pound of super honey taken off as yet. For myself, I have not put crates on yet, in fact, I have been feeding almost up to date, the demand far exceeding the supply. 'There is still time,' as you remark, seeing we here have the heather to look forward to, and abundance of clover yet. However, let us hope on. We cannot order these matters.—J. A., *Haltwhistle, Northumberland.*

BEES AT HALE END.

[1088.] The bee-tent of the Essex Bee-keepers' Association will be in attendance at the annual village *fête* and flower show at Hale End on the afternoon of August Bank Holiday next. Mr. Durrant, the lecturer to the Association, and Mr. Debnam, the expert, will be in charge. As Hale End is only half-an-hour's ride from Liverpool Street on the Chingford line, it is hoped that persons living in or near London, who are interested in bees, will be present, as well as those from the immediate neighbourhood. Tickets of admission to the ground will be required, which must be obtained beforehand, price fivepence each post free, of Mr. W. J. Sheppard, the hon. district secretary of the E. B. K. A., Hawkwood Villas, King's Head Hill, Chingford.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

June, 1892.

Rainfall, 1·78 in.	Sunshine, 243·6 hrs.
Heaviest fall, ·64 in. on 28th.	Brightest days, 9th and 24th, 15·35 hrs.
Rain fell on 14 days.	Sunless day, 1.
Below average, ·07.	Above average, 30 hrs.
Max. temp., 79° on 28th.	Mean max. temp., 63·5°.
Min. temp., 36° on 14th.	Mean min., 47°.
Min. on grass, 31° on 15th.	Mean temp., 55·7°.
Frost on grass, 3 nights.	Max. barometer, 30·60 on 8th.
Honey coming in fast.	Min. barometer, 29·66 on 23rd.

L. B. BIRKETT.

EARL SHILTON, LEICESTERSHIRE.

June, 1892.

Maximum temperature,	10th	100°
Minimum „	14th and 18th	34°
Mean max. „	27th	79°
„ min. „	14th	50·6°
„ temperature	.....	59·06°
Rainfall	.....	3·15 in.
Highest rainfall in 24 hrs.,	29th ..	1·14 „
Rain on	.....	16 days.
Prevailing wind	.....	s.

W. S. FULSHAW.

Echoes from the Hives.

Earl Shilton, Hinckley, July 11th, 1892.—The bees have worked well considering the rain and severe winds we have been having. I removed eleven shallow frames, and took 27½ pounds of honey. There are also twenty-one sections nearly complete. There have been a lot of swarms in this neighbourhood.

Ecclefechan, N.B., July 12th.—I am afraid bee-keeping in this part of the country is a complete failure this year. I have not heard of an ounce of honey having been taken yet, and if we do not get good weather shortly, feeding must be commenced.—W. NELSON.

Northampton, July 17th.—Since the 25th ult., when a change for the better took place, bees have, on the whole, been working away merrily on the late clover and the limes. Four days' work on the latter was lost through high winds; nevertheless, 'a good yield' is the general verdict of bee-keepers here. If not so good as that of 1883, the season of 1892 will be one to be remembered. There is still a good deal of clover in bloom, and the limes will last at least another week if the weather be favourable. Limes appear to yield nectar at a much lower temperature than clover, for, on Thursday evening last, at 7 o'clock, I found my bees busy on them, though the thermometer stood as low as 51°. A serious relapse of swarming fever took place on and about the 10th inst., producing quite an irruption of swarms, virgin swarms and casts, much to the disgust of their owners. —E. B.

Queries and Replies.

[593.] *Driving Bees.*—I am going to drive a cottager's bees shortly, about five miles from here, and have them for myself: will you kindly inform me:—1. What date and time of day to do it? 2. Must there be only one queen left when two or three driven stocks are united, or would it cause swarming if they were not found? 3. How shall I find the queen in close driving? 4. Will it be right to put these bees on brood foundation and commence feeding, or must they have old combs to begin with? Your advice on these matters will be esteemed a favour, as I have never driven any before.—J. L. W., *Croydon.*

REPLY.—1. At end of season, say the second week in August; early evening is the best time, just when the bees have given up work for the day. 2. As a beginner, your wisest course will be to take no heed of the queen, but let it be a case of 'survival of the fittest.' Bees don't swarm after being driven. 3. An expert might find the queen for you after the bees were got into the empty skep, but we don't advise your trying it. 4. Ready-built combs are best if you have such by you, and they are quite clean and healthy.

[594.] 1. What is to prevent bees from getting between the brood box and outer casing of a Cowan hive when hiving a swarm on top? 2. Six weeks ago I put a swarm in a hive with ten frames of foundation, and last week added a rack of sections, which the bees have started filling. About when ought I to take the sections away? 3. Shall I do right to put a crate of sections on my other hive this year, as the bees, though a very strong swarm, have only been hived eight days? 4. I find dozens of earwigs on and around the quilting: how can I get rid of them?—GEORGE E. LEE, *West Tilbury, July 5th.*

REPLY.—1. Nothing but care on the part of the bee-keeper: but why not hive the swarm at the bottom? 2. The sections must be removed when filled; how long this will take time only will show. 3. It is very improbable that a swarm hived so lately will do anything in sections this year. 4. Constant brushing away is about the only remedy.

[595.] *Foul Brood.*—I send a piece of comb which I am at a loss to make anything of, nor do I know what to do. The bees are a second swarm of June 15th, 1891. They did well, and gathered honey enough to keep them through the winter—indeed, there is plenty in the hive now, but the bees are getting fewer

every time I look at them. Yesterday I examined them, and saw the queen for the first time, and then cut the comb from the centre of one of the frames. There are only two like it. Is it foul brood, or why do not the bees come to perfection? I have five more hives, three of which are doing well. I have taken forty-two sections from one, and have two supers at present on the same; but I have had no swarms up to now, though the bees have been hanging out for some time.—C. M., *Devon, July 7th.*

REPLY.—The comb sent is so bad with foul brood that we should not advise any attempt to cure the stock. Destroy it at once, and so avoid the risk constantly surrounding the healthy colonies. Disinfect the hive before using again.

[596.] *Queens Passing through Excluder.*—1. On opening one of my strongest stocks of bees, which I am working for the extractor, I found the queen had got through the excluder zinc into the upper chamber, and every frame was half filled with sealed brood. I searched for queen, but failed to find her. What ought I to do? 2. About three weeks ago I placed a strong stock of bees, which were in an ordinary box without frames, on the top of a bar-frame hive, hoping the queen would go down and form a brood chamber below; but I find she has not done so, and the bees are fast filling the frames with honey. How ought I to get her down, or would it be best to let her stay where she is?—A READER, *Chippenham, July 6th.*

REPLY.—1. Unless the season has been an exceptionally poor one with you, there must be a considerable quantity of honey in the upper chamber, seeing that nearly all the income will be stored there. Under these circumstances, therefore, it would be best to uncap the sealed honey now in the upper story, and set it under the original brood chamber, trusting to the bees to carry the unsealed honey into the empty combs of the latter when placed overhead. 2. If the bees had required room for breeding, they would have entered into possession of the lower hive. As it is, they must be left as they are, and when the upper combs are full up the queen will probably pass down below.

[597.] *Combs in Skeps Breaking Down.*—I have a stock of bees in a straw skep which is placed on top of a frame hive fitted with full sheets of foundation. On removing the skep to place a drawn-out comb in the centre of the foundation, about two of the combs came partially out. I instantly replaced the skep, but, of course, it must be very much disarranged inside. What will be the best thing to do? Shall I make an examination when the bees have cleared up the honey which I see is running out, and what will be the best thing to do if the combs are joined to the top of the frames? The skep, which is placed on the quilts having a large hole in the centre, swarmed on the 21st of May. I set it on the next day, but the bees have only just commenced to pull out the foundation. Will it be necessary to place excluder zinc between the skep and lower hive to get the honey free from brood, and if so, when may I do it, or would this prevent the young drones from getting out, and so die inside? I may say the skep was very heavy with honey &c.—R. P., *Croydon.*

REPLY.—You cannot do better than leave the skep where it is for the present, as by again lifting it more mischief may ensue. If the bees are working as usual, and no undue excitement was observed after the mishap, it may be safely assumed that the young queen is all right and breeding in the lower hive. At the close of the season, the skep may be more easily handled, as all the brood will have hatched out.

[598.] *Wide Honey Jars—Building up Nucleus Hives.*—1. Honey jars with caps are preferable to those which require tying over. But those of one-pound size are usually tall. Consumers desire a thicker, wider bottle. The honey can be got out from such bottles more easily. Where can such short, thick bottles, with screw caps, be obtained? 2. I have two strong nucleus hives, with three frames in each. I want to make these into good hives for 1893. (*a*) Should I transfer them soon into full-sized hives placed close by, (*b*) transfer one and give the six frames of the two nuclei to one queen for the winter, or (*c*) keep both through the winter for spring purposes? All my present hives are good and strong.—C. B.

REPLY.—1. The wide bottles referred to are made by most manufacturers, and any dealer should be able to supply them. 2. If ready-built combs are given to 'strong nucleus hives' now, they should be well able to build up good stocks for wintering without 'uniting.'

Bee Shows to Come.

July 22nd and 23rd. Bristol Association. Secretary, Mr. Jas. Brown, 42 Baldwin Street, Bristol. Entries closed.

July 26th to 29th.—Scottish Bee-keepers' Association Summer show of bees, honey, and appliances, in connexion with that of the Highland and Agricultural Society, at Inverness. Entries closed July 18th.

July 27th and 28th.—Leicestershire B.K.A. annual show at Market Harborough. For schedules apply to H. M. Riley, Hon. Sec. L.B.K.A., Tower House, Leicester.

July 28th to August 1st.—Lancashire and Cheshire B.K.A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool.

August 2nd.—Leicester B.K.A. exhibition of bees, hives, and honey, in connexion with the Abbey Park Flower Show at Leicester.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries closed.

August 20th.—Honey show in connexion with National Co-operative Festival at Crystal Palace. Liberal prizes. For schedules apply to the Secretary, A. O. Greening, 3 Agar Street, Strand, W.C.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Other shows in connexion with the Notts B.K.A. will be held at Hucknall Torkard, July 26th; Southwell, July 28th; Beeston, August 1st; Thorneywood Chase, August 11th; and Mapperley, August 1st and 2nd.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

PLUM-TREE.—Any one who carefully reads the article referred to in the light of ordinary intelligence, will find that there is no need for us to go into the matter further than we have done. Nor are we troubled by the efforts of those who from interested motives endeavour to make black appear white.

ETHEL TRESSIDER.—We should be very pleased to 'pin out' specimens of the various races of bees for you if furnished with the necessary samples, otherwise we are unable to comply with your request.

ED. BRAY (Wandsworth Common).—*Bees and Poppies.*—Bees, for some reason we cannot fathom, are very fond of poppies, objectionable as is the odour of these pretty flowers. The honey gathered from this source might be unwholesome, as it certainly would be unpalatable if poppies were grown by the acre; but in this country there need be no fear of harm resulting from it.

W. NELSON (Ecclefechan).—All the bees sent are virgin queens. They are of full normal size, not small, as you suppose. It is quite usual for several young queens to be cast out after a second swarm has issued.

JAMES M. MACK.—You are right, comb is foul broody, though not a very bad case; but as the stock is weak we should destroy both bees and combs, and disinfect the hive.

G. A. B.—There is no trace of foul brood, or, indeed, of brood at all, in comb sent. The cells contain only dried pollen.

G. J. S. HOPKINS.—Grubs sent are the larvæ of a wild bee known as the mason bee.

E. MAY PALMER.—1. Sections may be removed singly as finished or *en bloc* when the whole rack is completed; it is simply a matter of convenience. 2. The centre sections are usually more forward than those at the outsides.

PERCY LEIGH (Stoke Prior).—*Bees refusing to Swarm.*—If the bees continue to 'hang out' by all means add either the remaining frames or give a rack of sections, if you have such with ready-built combs. It is too late in the season to give bees comb-building to do.

YOUNG BEGINNER (Pontypool).—Driven bees moved one and a half miles away will not go back to their former location.

J. C. C. (Ascott-sub-Wychwood).—Twenty acres of clover or sainfoin in full bloom in fine weather would no doubt give a good return to a dozen stocks of bees, but when you ask how many stocks that amount of pasturage 'is supposed to keep,' we confess our inability to answer with accuracy, seeing that so much depends on season, &c.

ROBERT SMITH (Lauder).—So far as we can judge of a crushed and dry insect, the one forwarded appears to be a Carniolan queen. The inside was too much dried up to enable us to dissect it, so we cannot say if she was fertile or not.

*** TO OUR SUBSCRIBERS.—We invite the attention of all subscribers receiving the *Bee Journal* in coloured wrappers to the fact that their subscriptions are now overdue, and that a remittance in payment will oblige.

*** *Several articles, queries, &c., are in type, and will appear next week.*

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Illustrated Circulars Free. Prices 7/6, 10/6, 21/-, 25/-
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Wilts Bee-keepers' Association.

THE COMMITTEE has accepted invitations to hold Shows on the following dates, and will be glad to receive others:—

MERE, August 1st. Temperance Fête.

SWINDON, August 17th. Flower Show in the People's Park, New Swindon.

This will be the COUNTY SHOW, at which alone Prizes will be offered by W. B. K. A.

For all information apply to

W. E. BURKITT, *Hon Sec.*
BUTTERMERE RECTORY, HUNGERFORD.

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All Queens are reared from *pure selected* mothers, while only the very finest young Queens are reserved for mating. Apply direct to the Home Apiary (with Cash in all cases):

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SMOKER.—The best in the World, Mahogany, polished, double Spring and Fireguard, delivered free, **3/6**. Extra large, 4/6.

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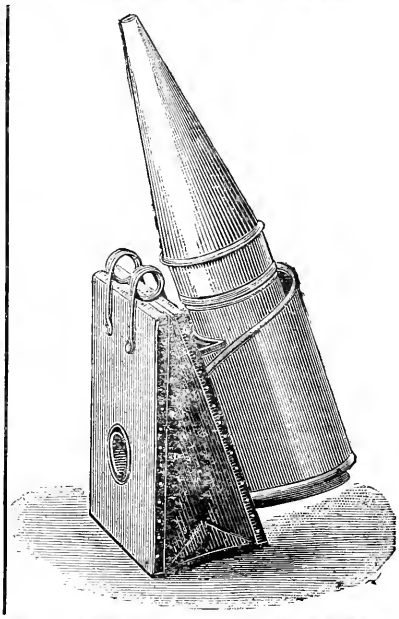
FOUNDATION.—Delivered packed in boards. Brood, 9 to 10 sheets per lb., **2/3**; Section, very thin, per lb., **3/-**. Delivered post free. *Send for Samples.*

SUPER CLEARERS.—Our Perfection, with printed directions, delivered, **2d.** each; **10d.** half dozen; **1/6** dozen.

SUPER CRATE.—Neatest and warmest, fitted with 21 1-lb. Sections, with whole sheets of Foundation; Spring Dummy, carriage paid, delivered at your own door ready to put on, **4/6**.

SECTION SUPER.—For top of Skeps, fitted with Roof, well painted, staples and pins for fixing, fitted with Sections containing whole sheets of Foundation, Dummy-spring, &c. Holding 15 Sections, **6/6**; 30 Sections, **9/6**, carriage free, delivered at your own door.

CATALOGUE POST FREE.



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WM. BAZELEY, Naturalist, NORTHAMPTON.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The usual monthly meeting of the Committee was held at 105 Jermyn Street on the 20th inst. Present: Mr. T. W. Cowan in the chair, the Hon. and Rev. H. Bligh, Revs. Dr. Bartrum, J. L. Seager, W. E. Burkitt, and G. W. Bancks, Messrs. W. H. Harris, J. M. Hooker, W. Broughton Carr, and Major Fair.

The statement of accounts was read, and it was resolved to pay all accounts in connexion with the Warwick and Swansea Shows. The Chairman reported that he had concluded arrangements for holding a honey show at the Agricultural Hall, in connexion with the British Dairy Farmers' Association, who have promised to give a better position for the honey exhibits than last year. The Chairman was requested to communicate with them respecting the judges.

The gentlemen invited to officiate at the National Co-operative Association's Show at the Crystal Palace in August were approved. Judges for several other shows were appointed.

Votes of thanks were passed to Mr. Greenfield for assistance in connexion with the Warwick Show, and also to the judges who assisted thereat.

The prize schedule of the "Royal" Show, to be held at Chester next year, was considered, and amendments were made thereon as follows:—A new class has been added for "Three shallow frames of comb honey for extracting," and also a new class for smokers. In the observatory-hive class the value of the prizes has been increased, and the wording modified in order to include hives of any size.

The lantern slides for lecturing purposes submitted by Messrs. Newton & Co. were examined and highly approved.

The Committee adjourned till September 21st.

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the above Association, which now appears to have been thoroughly re-formed on a solid basis, was held on the show ground of the Lincolnshire Agricultural Society at Lincoln, on Thursday, the 14th inst.—Gerard A. Young, Esq. J.P., in the chair. After the minutes of the previous meeting had been read and passed, the officers for the ensuing year were elected. The account for the new bee-tent was passed, and Lord St. Vincent kindly promised the Association a flag to surmount the centre pole of the tent. This tent has lately been built by Mr. Harbordt, of Liverpool, from the model exhibited at Doncaster, and all the poles are of bamboo, which gives a very light and graceful appearance, with at the same time great strength. The arrangements for the expert's autumn visit having been made, a unanimous vote of thanks to the chairman closed the meeting.

KENT BEE-KEEPERS' ASSOCIATION.

Annual Exhibition.

This was held on the 13th July, at Hawkhurst, in conjunction with the local flower show, the committee of which gave a cordial welcome to the bee-keepers.

Under the active superintendence of Mr. Tinne, the local hon. secretary, a good working committee was formed, and subscriptions to a liberal extent were collected, whilst a large amount of interest was stirred up in the event. The competition proved very keen, needing very close discrimination on the part of the judge, Mr. W. Broughton Carr. The classes were well filled, the locality doing itself great credit, and the honey exhibited was of the finest quality. About 800 pounds was staged. The attendance of members was large, and the public evinced great interest both in the exhibition and the displays of bee-management, carried out on this occasion by Mr. T. Badcock of Southfleet. The exhibits of hives and appliances by Messrs. Green & Sons were well up to the mark both in selection and quality. In spite of the unfavourable state of the atmosphere the show was generally pronounced to be very successful, and well calculated to advance the interests of bee-keeping in the district. The silver medal of the B. B. K. A. was awarded to Rev. G. W. Bancks for his exhibit in Class 5. The bronze medal was gained by A. Glynn in Class 8, and the certificate by G. Dew in Class 10. The following are the general awards:—

Class 1. Best observatory hive stocked with bees and queen.—1st prize, Messrs. Green & Sons; 2nd, Rev. G. W. Bancks.

Class 2. Best and most attractive display of honey.—1st, T. Badcock; 2nd, Rev. G. W. Bancks; 3rd, H. Neve.

Class 3. Best 12 1-lb. sections.—1st, Miss Wood; 2nd, F. J. Reed; 3rd, T. Badcock; h. com., G. Dew.

Class 4. Best 6 1-lb. sections.—1st, F. J. Reed; 2nd, S. Cox; 3rd, A. Glynn; h. com., T. Badcock, J. Collins, Miss Wood; com., Rev. G. W. Bancks, E. E. Smith.

Class 5. Best display of comb honey for extracting.—1st, Rev. G. W. Bancks; 2nd, Miss Wood; 3rd, G. T. Tomkin.

Class 6. Best 12 1-lb. jars extracted honey.—1st, T. Badcock; 2nd, Rev. G. W. Bancks; 3rd, F. J. Reed; h. com., Rev. G. W. Bancks, A. Glynn; com., Miss Wood, J. Collins.

Class 7. For the finest sample of pure beeswax.—1st, M. Penfold; 2nd, H. Masters; 3rd, Rev. G. W. Bancks; h. com., T. Badcock.

Cottagers' Classes.

Class 8. Best 12 1-lb. sections.—1st, A. Glynn; 2nd, G. Dew; 3rd, F. J. Reed; com., J. Collins.

Class 9. Best 12 1-lb. jars extracted honey.—1st, A. Glynn; 2nd, F. J. Reed; 3rd, G. Dew.

Local Classes.

Class 10. Best 12 1-lb. sections.—1st, G. Dew; 2nd, W. Jarman; 3rd, F. J. Reed.

Cottagers only.

Class 11. Best 12 1-lb. jars extracted honey.—1st, F. J. Reed; 2nd, G. Featherstone; 3rd, G. Dew; 4th, A. Glynn.

Class 12. Best exhibit of hives and appliances suitable for an apiary of 12 colonies of bees.—1st, Green & Sons.

Class 13. Best exhibit of hives and appliances suitable for a cottager's apiary of 6 colonies.—1st, Green & Sons.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to 'The Editors of the "British Bee Journal," 17 *King William Street, Strand, London, W.C.' All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

CURING FOUL BROOD.

[1089.] My friend Mr. Cowan, on hearing me express, a few days ago, a profound belief in Naphthol Beta and Naphthaline, asked me to put my belief on paper, and now Mr. Woodley thinks it "incumbent on those among the fraternity who have had the pest of foul brood and have cured it and got free from it, to give their remedy." My experience then, I trust, may be of some service to others.

Three years ago my apiary was full of foul brood. I was foolish enough to transport my hives from Hertfordshire at great trouble and at great expense; far better would it have been to have made a good bonfire and burnt the rubbish which had accumulated with years. My Hertfordshire hives were tainted before they arrived in Essex; the disease soon spread, and several hives were badly affected. Some of these were broken up and the combs destroyed. In the autumn all the hives not in use and everything in the bee-house were subjected to the action of sulphur. The value of this remedy had been taught me by my experience as a Head-master. After a terrible attack in my house of scarlet fever, during which several pupils nearly lost their lives, application was made to the Medical Department of the Privy Council for their advice as to the best disinfectant. "Burn brimstone," was their answer, "in every room, and expose everything in the room to the action of the sulphur." That advice I have followed for many years, and have found it beyond all value. So, in the autumn of 1890, I sulphured every article in the bee-house. Salicylic acid was, of course, used with the food at all times. There were more traces of foul brood in 1891 than I liked. So last autumn I washed all my hives with the solution recommended in the *Bee-keeper's Guide-book*, exposed them all for twelve hours or more to the fumes of sulphur, as well as the combs about to be stored away for future use. These combs were all sprayed over or lightly washed with salicylic solution, tied together in bundles of ten or twelve, wrapped in paper, and a piece of naphthaline was wrapped up with them. All these things take time, but country parsons can find time for such things as a general rule, and bee-keepers, at any rate, must attend to them. Some pieces of naphthaline were put into every hive, and as soon as feeding began Naphthol Beta was added to the food. Foul brood was scarcely observable early in the spring of this year, perhaps because the bees were so very late in breeding. But the watchful eye of Mr. Hooker, in carefully going over every hive, detected an undoubted case, and I feel convinced that constant care will always be necessary here. Mr. Hooker put four small pieces of naphthaline into every hive, and I have not found any harm arising from what seemed to me an overdose. I should not, however, advise any one to put naphthaline into a hive with a new swarm. The persistency with which the bees bring out the smaller pieces of naphthaline whenever they get the chance, is a clear indication of their detestation of this latest "cure." The queen would probably leave a hive in which there was no brood, and in which the stench (to the bee) of a carbolic ball had to be endured. I remember a case in which poor Marshall (Mr. Neighbour's man) put some carbolic mixture on the sides of a hive in which a swarm was about to be placed, but the bees very soon came out from their

strongly scented mansion, evidently preferring the open air. Care should be taken to use naphthaline only after the queen has begun to lay.

The various precautions taken have evidently not been in vain. Every hive—I have now about a dozen—save one late swarm, has been supered, and every old hive, I think, has swarmed. A hive from which I took two queen-cells yesterday was full of brood, and I saw no trace of foul brood. True, I am by no means anxious to discover it; but I am convinced that foul brood can be got rid of or kept well under control—(*a*) by destroying bad combs; (*b*) by occasionally introducing new foundation; (*c*) by the use of Naphthol Beta and Naphthaline; (*d*) by cleaning the hives carefully in winter, and exposing every article used, as far as possible, to the influence of sulphur. The quilts, carpets, calico covers—in fact, everything, except, perhaps, the extractor and any iron articles—should be in the fumes of sulphur for twelve hours or more. These, when disinfected, can be by degrees substituted for those in use, and the latter subjected to the same process. —E. Bartrum, D.D., *Wakes Colne Rectory, Essex.*

NOTES CONCERNING SWARMS.

[1090.] For some years it has been my practice to place the swarm from each hive in the immediate vicinity of the hive which it has just left, and then to join them again in the autumn. I thought that there would be less fighting if the bees were kept more in touch with one another during the summer. Most bee-keepers study as much as possible the inside operations of the bees, and probably few interest themselves to any great extent in what goes on immediately outside. I have made such arrangements that I have both the stock hive and the swarm entrances under my eyes at once. I will give your readers an account of what has interested me most during the last three weeks.

I have, with other hives in my bee-house, two hives placed together, with their entrances 15 inches apart, and facing one another. I will call them No. 1 and No. 2. Between these two I have two wooden entrance chambers, divided by a division having a bee-passage along the bottoms 10 inches long by $\frac{3}{4}$ inch deep, with a slide. The chambers are $7 \times 7 \times 18$ inches long, and have glass on the top. The bees enter at the outer end of these chambers, and pass right or left to their hive.

No 1 in winter contained a good stock of bees, but, owing to the bad season, it swarmed very late.

No. 2 was empty, and it was my intention, when a swarm came off from No. 1, to put it into No. 2, and exchange their positions.

No. 1 swarmed on June 28th. It flew over the top of some trees 20 or 30 feet high, and then finally settled on the bottom branch of a small fir, 10 inches from the ground. I brought out a frame hive and a sheet. I placed the latter under the swarm, shook them down, and they ran into the hive. I saw the queen go in, and I carried off the hive to the bee-house, knowing the bees would follow. I moved No. 1 hive, and placed the swarm in the position No. 1 had been. The slide was in the division between the chambers. All flying bees came to join their queen. No. 1 hive contained the brood, which filled the most of thirteen frames, and a good number of young bees to cover them. In addition to these there were, however, a number of older bees, which seemed to have chosen to remain with the brood. In the course of the afternoon many of these flew out, but they came into No. 2 entrance, and looked confused; they ran about. I pulled out the slide and immediately they crossed over to No. 1. They knew they were wrong. In the evening I shut the slide. I was from home the following day, but on my return I looked at the bees, and though one or two bees flew out from No. 1, they did not return, but apparently went into No. 2 chamber. No. 2 chamber was occupied with a crowd of bees pulling about a number of bees there, but apparently not killing them. I pulled out the slide, and immediately thirty or forty bees walked across to No. 1, fanning their wings. The quarrelling soon ceased. I have since kept this slide open. No 1 old bees come in by No. 2 entrance, and walk across. No. 2 young bees return at once to their own entrance. All the bees going out for the first time make a half-turn round before taking wing, and then fly backwards and forwards in the entrance. For the first few days, the bees in No. 1 entrance were few, but they daily increased. They rather reminded me of young lambs—they ran at one another, knocking their heads together. They very soon began to bring in pollen—great big pellets of a bright orange colour. For some days these were the only bees which brought in this pollen. Occasionally orange pollen came into No. 2 entrance, but the bees crossed over to No. 1.

The No. 1 bees have now ceased to bring in this pollen, but what they do bring in is generally larger than that of other hives. I see a few bees in the adjoining hives now coming in with it. There are old bees in No. 2 hive, and those whose abdomens are long and oval and trailing on the floor-board bring in very little pollen; they mostly use the first joint of the hind foot to walk on, while the claw scarcely touches the floor. No. 1 bees, in their early stage, brought out a good deal of drone brood. I was under the impression they must be short of food, and I fed them; but I have since thought they must have had plenty. I have another hive *similar* to No. 1, which only swarmed July 16th, and I see at least 100 drone brood on the ground opposite the hive. They have plenty of honey, and neither seem to disturb the flying drones. I cannot account for this. No worker brood is brought out, and the queen in the last-swarmed hive cannot yet be

fertilised. The young queen in No. 1 hive is evidently laying.

We have had a few days of fine weather, but it is again bad—rain and north-easterly winds.—T. McC., *Ecclefechan, N.B., July 18th*, 1892.

REMOVING BEES FROM A HOLLOW TREE.

[1091.] In June last year I was offered a colony of bees that had taken possession of a hollow tree some three weeks previously. I accepted the offer and removed the bees successfully a few days later. I here give details of the manner in which I proceeded, because it may be of use to others who might eventually have the same task to perform.

The *matériel de guerre* which I took with me consisted of a straw skep, a piece of cheesecloth, some twine, tin-tacks, a pair of nippers, a piece of wire, and my smoker.

I found the bees located in a large elm-tree, some twenty feet from the ground. I therefore borrowed a long ladder, and, mounting, found along one side of the tree a cleft or hollow opening about two feet long and eight inches wide, and an aperture at the bottom thereof formed the entrance leading down to the nest, and in which the top of some of the combs was just visible. I tied the skep to the tree at the top of the opening, and tacked the cheesecloth inside the lower edge of the skep and inside the hollow of the opening in the tree, so as to lead the ascending bees straight into the skep. I next procured a ¾-inch brace and bit, and bored a hole some three inches below where I judged the bees had built combs down to, and removed the rubbish through the hole thus bored with the bent end of the wire, and soon brought out a live bee, which showed that I had just hit the right depth. I then applied smoke very gently through this hole at short intervals, giving the bees ample time to gorge. In five minutes they began to ascend slowly, and stationed themselves for the most part on the cheesecloth leading to the skep. A few minutes more the drones could stand it no longer, and began ascending. After applying smoke again three or four times the queen made her appearance; she walked around the upper edge of the aperture at the top of the nest, as if loth to leave it. I placed a match-box over her, and pinned it, with the queen, inside the upper part of the skep. The bees then, in a very short time, clustered very compactly as a swarm inside the skep around the queen-holder. I removed the dead wood and enlarged the aperture at the top of the nest sufficiently to be able to remove the combs. I had to go down about an arm's length to reach the bottom of the nest in removing the combs. These, which were all new, containing only young brood and honey, filled a large dish. I had two or three slight stings along the arm from a few bees that chanced to get pressed against the sides of the hollow. I plugged up the hole I had bored, and filled the hollow in which the bees had built their combs with small stones and gravel, as the owner did not desire other bees to take possession of that tree in future. The whole operation took about an hour.—Peter Bois, *Jersey*.

BEES IN DERBYSHIRE.

[1092.] I have been reading 'Useful Hints' of July 7, and looking down its various divisions —'Weather,' 'Making the Most of the Season,' and 'Varieties of Bees'—it makes me wish as a bee-keeper that I could share the good things you are having down in fortunate Kent. We don't read much in the *B. J.* of doings in unfortunate Derbyshire, and, in such a season as this perhaps it is well we do not, for while you are reaping a good harvest and preparing honey for market, we are pondering over the question of the cheapest market for sugar and the best bee-feeder! We have bees in abundance, hives running over with them; but the mowing machines are now rattling around us, and in about a week all hope of surplus will be over for 1892. While all this is very disappointing, the reason for it is not far to seek, for our bees have only had one real good day for gathering this season, and that was on Sunday, July 3rd. Our supers are full of bees, but unfortunately empty of honey; they want work, but cannot get at it. Derbyshire has been so cold this year that bee-keeping here has failed, and so we must wait for another year to make up our loss. All the same I no less congratulate our bee-friends in the South on their success.— Derbyshire Novice, *Codnor, July 12th*.

FEEDING BEES IN STRAW SKEPS.

[1093.] Knowing that there are still bee-keepers who either from choice or necessity use the primitive straw skep, I will detail the method I have adopted for feeding with such. At the beginning of the season I tried the saucer plan with chips for floats, and also a trough, but both caused too much disturbance to the bees.

Before hiving my swarms this year I made a hole in top of skep large enough to admit the neck of a two-pound glass jam jar. Inside the skep and immediately under the hole I fastened a piece of queen-excluder zinc of the required size. After filling a two-pound jar with syrup I placed over it a piece of muslin and fastened by an elastic band, which I think is better than using string. When the jar is inverted and placed in the hole, the bees very readily take down the syrup. When supply is exhausted have another jar same size ready to pop in when the other is removed, thus preventing bees escaping. When a super is placed on hive the queen-excluder is again very useful for serving the purpose its name implies. I took over sixteen pounds in less than a fortnight from one hive.—Percy Leigh, *Stoke Prior, Bromsgrove*.

A SWARMING EXPERIENCE.

[1094.] A straw hive which I have has greatly interested, and somewhat puzzled me, this season. It did well all winter, and by the beginning of June had to be supered. The first super was filled, but not sealed, when I put on a second super. When about half filled, an exceedingly warm day came (the 9th of June), and the bees sent off a large swarm. But, having given, as I thought, plenty of room, and not desiring bees, but honey, I had no thought of the bees swarming so soon. Early in the morning of June 9th, however, they came off, and had lighted on a berry-bush quite near the hive, but by the time I observed them they had begun to get restless, and before I could get anything to put them into they were again in the air, and making their way southwards over the trees, houses, &c., bound for "nobody knows where!"

After the usual nine or ten days I heard the queens beginning to "pipe;" but, as the weather was very cold and wet, no second swarm came off till exactly a fortnight after the first swarm. I happened to be at the hive at the very time when they started to come off, and I caught a queen (1) as she stepped out on the entrance board. The bees, of course, came off and settled on another berry-bush. They were safely housed; but in two hours they had all left the new home for their old one. Next morning I found a queen (2) lying *dead* on the entrance board, and I could have thought all the swarming excitement was over, had I not heard as loud piping as ever inside the hive. The day had not grown very old when they began to show signs of swarming again, and I watched them, and again caught a queen (3) just on issuing from the hive. The bees, however, continued their rush and whirling, and ultimately lighted on another berry-bush. Safely housed them again, and after three hours I went and found them all quiet and settled in their new home. As I did not want a new and separate hive (for I have also a frame hive in good condition), I took frame after frame and threw them back into their original home. On the third frame I found a queen (4), caught her, and let the bees go back alone. Still the piping continued. On the afternoon of the following day I found a queen (5) lying dead on the entrance board, and a few bees gathered round her, evidently mourning her loss. And as yet even no end to the piping! On the following morning, June 29th, the swarming fever was manifest again. I watched, and caught a queen (6) just on coming out of the hive, and the bees on this occasion went no further than the alighting-board, after a few of them had the usual whirl in the air. A little puff of smoke and they all returned to the original hive. Still the piping continued, but only *one* sound could I now hear. By the 2nd of July the piping ended, the fever had disappeared, and the bees were busy at work in the glass super which I put on just before "the first cast" came off.

Now, many questions are suggested by a story like this, and should you feel inclined to remark on it fully I shall be delighted; but the following amongst other questions might be raised:—1. How old were all these young queens when the mother queen left the hive on 9th June? 2. Why so many queens? and 3. What should one do to preserve them in health and strength? 4. Why such a length of time of piping from 19th June till 2nd July? 5. Have we not in this "experience" a special argument for *movable* bar-frame hives?—CUMBER NOT.

[Yours has certainly been a remarkable experience, though the trouble is not very difficult to explain. The cold weather subsequent to the issue of the top swarm no doubt upset normal after-swarming entirely, and in consequence quite a number of virgin queens hatched out, all of which would have been destroyed in ten days from June 9th, if the weather had then allowed the second swarm to come off, and all the after-trouble avoided. Replying to your questions seriatim, we would say—1. The larvæ left behind would probably be four or five days old at the time. 2. Seven is not an unusual number. 3. Form nuclei if the queens are wanted. 4. Because of the adverse weather. 5. Decidedly yes. —EDS.]

NOTES FROM IRELAND.

[1095.] I must commend you for your very plainly written article on "removing supers," also Mr. Rushton's idea (1084) of bee-gardens in local centres is worthy the attention of County Councils, because if people want bee-knowledge they'll go straight ahead for it, and ask any amount of questions in connection therewith. Professional bee-keepers should not be allowed to compete at cottage garden shows, because they dishearten the local folk by carrying off the prizes from the village bee-man. All prizes should be given in money, and let "Hodge" do as he wishes with it. We don't expect people to make fortunes by keeping bees, but they should carry on the regular system of cottage gardening, with its kindred subjects of pig and poultry-raising. Yesterday a farmer asked me "What cure for gapes? My wife made 15*l.* by fowls last year, and this year she did not make a penny." Now there are mishaps in every branch of truly rural industry. If this should happen with the beehives, why, all would be banished; nevertheless, the farmer's wife won't refrain from poultry-raising next year. Cattle and crops are also failures at times. A farmer near me rented a gentleman's demesne, and he lost four of his best cattle from eating yew. Another lost eight bullocks, value 13*l.* each, from breaking into a graveyard, and still they go on. You should advocate the establishment of a fair-sized bee-garden in each electorate, say twenty hives, open to visitors for amusement and instruction, fitted with the latest devices, and under the control of the Association, and for which the occupier and attendant should receive remuneration.—J. TRAYNOR, *Tinahely, Wicklow, July 23rd.*

THE VALUE OF RED CLOVER.

[1096.] My experience hitherto has led me to consider that the *first crop* of red clover is of little or no value to the bee-keeper, but from what I noticed to-day I am sure that, under certain circumstances, this is not the case, for I have just visited a field which is not cut, even on the 16th July, where the hum of the busy bee, so dear to the ear of the bee-keeper, is heard everywhere, although it is dull and rather windy. The second crop, which is often left for seed, the bees delight to visit later on, in August. I should be interested to know what is the opinion on this point of the experienced bee-keeper.—A. P. J., *Norfolk.*

CAPTURING A TRUANT SWARM.

[1097.] Perhaps the following account of how some friends and myself captured a truant swarm of bees may interest your readers. I started bee-keeping last April with two stocks of black bees. On the morning of July 2nd, before leaving for town, they appeared to be at work as usual; but at midday a large swarm issued from one of the hives, and settled on an apple-tree hard by, remaining there about two hours and a half. In consequence of my absence there was no one handy to take possession of the swarm. They therefore decamped to the hollow arm of an elm about 200 yards distant, where I found them on my return home. Having failed to entice them into a skep, which was previously smeared with honey, we gave them up as lost. On the following day we thoroughly reconnoitered the tree, and wiser counsels prevailed. Towards nightfall, when most of the bees were in, we stuffed towels into the flight-hole, and by dint of some three hours' hard work succeeded in sawing the branch (about ten feet long) from the trunk. The rope attached, with a view to saving the bees from a fall, broke as soon as the limb was severed, and it crashed down at least forty feet to the ground! The towels had answered their purpose, and everything seemed intact, the bees to our astonishment appearing entirely unhurt. The next difficulty proved to be hiving the bees, to which end we placed a hive, furnished and with feeding-bottle in readiness, on a sheet at the mouth of the fallen branch, and resorted to 'driving,' but without avail. We then located the exact position of the swarm by cutting notches in the hollow branch. We were, however, reluctantly compelled to leave them, as it was now too dark to operate further. Six o'clock on the following Monday morning found us at work again, when we tried to smoke the bees out for an hour or more, but the queen would not budge. Eventually we were obliged to desist, and leave the bees to quiet down. In the evening we cut the branch into three sections, and swept the bees out from the middle one into the hive, where they are now comfortably housed. Would you, Messrs. Editors, kindly tell me if the queen is likely to have lost fertility by her fall?

On Tuesday a still larger swarm issued from my second hive, and alighted on the same apple-tree. These bees the gardener took in a skep, which it half filled.—S. A., *Muswell Hill, July 7th.*

[The chances of the queen being injured by the fall while the bulk of the bees were unharmed is very remote indeed.—Eds.]

OBSERVATORY HIVES AT WARWICK.

[1098.] Referring to the fact that only one observatory hive was staged at the "Royal" Show at Warwick this year, and several at Doncaster in 1891, I beg to ask, Would it not be well to have a class for single-comb hives, so as to give cottager bee-keepers a chance of showing, and so get more entries? The rule at Warwick was that all observatories must have three or more frames, and that means, if a cottager bee-keeper intends to show he must dig deep into his pocket to fill that of the dealers by buying an expensive hive; but I for one don't think it good enough.—Derbyshire Novice, *Loscoe Grange, July 12th.*

[We are quite sure that if any probability existed of a class for cottagers' single-comb observatory hives filling, or even producing a few entries, it would be provided for. The chances in favour of such a class are, however, very few indeed, as we think. For the rest, one of the reasons for the rule which insists on at least three frames, is that single-comb observatory hives never provide for the flight of the bees during the show, and this requirement cannot be dispensed with; hence their exclusion from the schedule.—Eds.]

MOVING A SWARM IN THE DAYTIME.

[1099.] Having lately had great difficulty with a swarm, I wish to ask whether the reason may not have been that, instead of following my old practice of leaving the hive under a tree where the swarm settled till the evening, I put it at once on a stand near other hives? The case was this: The swarm, which was very large, settled round the top of an apple-tree, where it was impossible to get all the bees down at once. However, having got a large proportion of them and the queen into a bar-frame hive supplied with four frames of brood, &c., and four of foundation, I set it at one o'clock on a stand near the other hives. The result was what I never knew happen before—a fearful carnage of bees. Whether it was the bees of the next hive or from the parent hive I cannot say, but the ground was strewn with the slain.

My next difficulty was to get the rest of the bees out of the tree. I got most of them in the evening, and ran them into the hive. Still, some were left. I am told that if I had left the hive under the tree till the evening all the bees would have found their way in. Be-

this as it may, I am certain that I should not have had this fighting. Can you explain it, as I shall think twice before moving a swarm again to the stand it is to occupy in the day-time?—LINCOLNSHIRE RECTOR.

[There is no doubt but the mischief would never have occurred had the swarm been allowed to stand near to where it clustered till the evening. Your mistake was in moving the bees near to the other hive before the swarm had thoroughly settled, and consequently many of the flying bees attempted to enter the strange hive and were killed. Our constant advice to those who are not experienced bee-keepers is to leave swarms in the hiving skep till evening, then transfer them to frame hives; but to advise old hands to do this would only cause a smile on their part, seeing that they can have the swarm working in its permanent home in half an hour after it issues.—EDS.]

NORTHANTS B. K. A.

[1100.] On the 20th and 21st of July the tent of this Association occupied, by kind permission of the Secretary (Mr. Lovell), a good position in the Northants Agricultural Society's Show-yard.

Admission was free on both days. On the second day the audiences were so large that it was thought advisable to remove the outer canvas altogether. Mr. Edwin Ball filled the office of lecturer and practical demonstrator. He gave five different lectures on each day, contriving to illustrate each lecture by useful manipulations of either skep or bar-frame hive. The whole of the operations were performed by the aid of the carbolic cloth only.

On the evening of the first day, and throughout the whole of the second day, the bees were very busy carrying in pollen of various colours from the neighbouring gardens.—ROBERT HEFFORD, *Hon. Sec., Boughton.*

Queries and Replies.

[599.] *Races of Bees—Examination for Certificates.*—1. I enclose you a few bees, on which should like your opinion as to race, &c. They are very active and industrious, going out in weather when other hives do not show a bee; rather vicious—in fact, will sting if you go too near hive; difficult to intimidate, and would defy the most expert to handle without gloves, &c. They swarmed recently, and stung when being hived; the swarm first settled in three clusters. I hived them in a straw skep, but on throwing them down in front of the bar-frame hive, the majority of them instantly took wing, and spread themselves all over the place, but eventually clustered again, and I hived them successfully by shaking the cluster on to the top of the frames. They are, as you will see, smaller than the average run of bees (about here at any rate). Their actions are altogether quicker, and more brisk than my other bees. They fill sections pretty well, the wax being fairly white, &c., the cappings, however, are somewhat rough, and nearly all have a small concavity in the cap. 2. I am intending appearing for examination for a third-class certificate, and have the following literature on the subject:—Webster's *Book of Bee-keeping, Modern Bee-keeping* (the sixpenny book published by B. B. K. A.), *A Modern Bee Farm* (Simmins), the diagrams and some pamphlets of B. B. K. A. Have also read, but not carefully studied, *Cowan's Guide-book*. Should these be sufficient? If more anatomy and physiology required, could get Mr. Cowan's work on that branch. 3. Suppose the following circumstances:—A queen-*cell* cut from one hive and put into another (*not having any queen-cells*), the queen having been taken away, would the hive rear the queen? 4. Or, if the queen-cell were put in, and the one queen not taken away, would the bees destroy the queen and rear the cell, or destroy the cell?—*i.e.*, what would be the probabilities in such cases at this times of the year? The weather here has been very changeable, very few really fine "bee-days," and last three days very boisterous, retarding work very seriously, and am afraid we are to have only a poor season, even if it improves at once, and only a *very* poor one if it does not. I will let you know later on the results obtained in this district, if of any interest to you. Am trying Bazeley's patent glazed section, and will let you know result of that also.—B. J., *Preston, Lancashire.*

REPLY.—1. The two dead bees sent are the common black bees. 2. If you master the books named, and are a good manipulator, you should have no difficulty in obtaining a certificate. You will not require more anatomy for third-class than you find in *Modern Bee-keeping* and *Cowan's Guide*. 3. Yes, generally, unless queenless too long a time. 4. The bees would destroy the cell.

[600.] *Moving Bees One Mile to Heather.*—1. I have my apiary (a beginner's) only one mile from the heather; would it put the bees back at all to take them right on to the heather, or would they be likely to do as well at home? 2. Will heather honey extract? 3. I want swarms; should I put sections on before swarming, so as to get comb drawn out before the heather time, or will doing so tend much to prevent swarming? 4. How long should swarms be fed, and about what quantity of syrup should they have? 5. Are hybrid Carniolans good honey-gatherers, and have they any advantages over blacks?—YOUNG BEE.

REPLY.—1. It would be risky and very slightly advantageous to move bees to heather only one mile away. We should leave them where they are. 2. No; it must be got out of the comb by means of a "press." 3. Mid-July is too late to talk of putting on sections to prevent swarming. In fact, stocks which have shown no disposition to swarm before now are not likely to do so at all this season: therefore, if swarms are wanted, they must be made artificially. 4. For about a week after hiving (longer if the weather is bad), give about a

half-pint of syrup per day. 5. Yes; but as to their "advantages over blacks," that is a matter of opinion. Our personal view is given in "Useful Hints" on p. 254 of issue for July 7th.

[601.] *Introducing Queens.*—Will you please advise me as to the best method of introducing six 1892 laying queens through perforated zinc-pipe cages? I introduced one last year to a stock, but I forget how I managed it, and her colony (English black bees) has given me a return this year of 144 pounds extracted honey. The colony has not swarmed. I shall thank you very much if you will kindly assist me.—FRANKLIN, *Hungerford.*

REPLY.—When introducing queens by the pipe-cover cage plan, the queen is put in a cage and card slipped under to prevent her escape; she is then placed on a centre comb, over food, and, after withdrawing the card, the cage is forced into the comb by a screwing motion as far as the midrib; replace the comb in the hive, sprinkle the bees with thin syrup, and leave the hive closed for twenty-four hours. If, on examining the comb and cage, the bees seem quiet, remove the cage, and allow the queen to move among the bees, and gently replace the comb. Should the bees attack the queen, cover her with the cage, and try again next day.

Bee Shows to Come.

July 28th to August 1st.—Lancashire and Cheshire B.K.A., in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's show at Newsham Park, Liverpool.

August 2nd.—Leicester B.K.A. exhibition of bees, hives, and honey, in connexion with the Abbey Park Flower Show at Leicester.

August 3rd to 5th.—Yorkshire Agricultural Society's annual show at Middlesbro'. Classes for bee-appliances, honey, &c. Entries closed.

August 11th.—Goole and District B.K.A. Honey Show in connexion with the Horticultural Society, Victoria Pleasure Grounds, Goole. Entries close August 1st. For entry forms, apply to Secretary, Carlisle Chambers, Goole.

August 17th.—Wotton-under-Edge District Bee-keepers' Association. Secretary, G. Gunston, Bradey Green, Wotton-under-Edge. Entries close August 10th. The season here has been very bad. We are short of honey for competition.

August 18th to 20th.—North of Scotland Bee Society. Annual Show at the Central Park Kittybrewster, Aberdeen. Entries close August 15th. For schedules, apply A. M. Byers, 18 Union Terrace, Aberdeen.

August 20th.—Honey show in connexion with National Co-operative Festival at Crystal Palace. Liberal prizes. For schedules apply to the Secretary, A. O. Greening, 3 Agar Street, Strand, W.C.

August 23rd and 24th.—Staffordshire B.K.A. Annual show at Stafford. Liberal prizes for bees, hives, and honey. Entries close August 6th. For schedules apply to Messrs. Smellie and Jones, Newcastle, Staffs.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Other shows in connexion with the Notts B.K.A. will be held at Beeston, August 1st; Thorneywood Chase, August 11th; and Mapperley, August 1st and 2nd.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

INQUIRER (London, S.E.).—*Keeping Bees within twenty miles of London.*—We should say that good districts for bee-keeping could readily be found at any station on the S.E. or L.C. & D. Railways, beginning at twelve and extending to twenty miles from St. Paul's.

J. E. (N.W.)—Bees sent are crossed Carniolans and blacks. The appearance on drone is no proof of mating.

BEE-KEEPER (Neath).—*Willesden Waterproof Roofing.*—The above is obtainable of the Willesden Paper Company, London, E.C.

G. TOON (Burton-on-Trent).—*Sugar for Bee-syrup.*—Moist or unrefined sugar is not suitable for making winter food for bees, though it may be used in spring if of good quality. Refined crystallised sugar is best for syrup-making.

E. RENWOOD (Chichester).—Driven bees.

RICHARD TAYLOR (Ulverston).—There is nothing in the dead bees sent by which we can account for them dying. If a few were sent alive it would help us in diagnosing the case.

A. MASCALL.—If comb sent (which contains only honey and pollen) is a sample of the whole, there is no disease in the hive, and if brood is there the queen must be fertile. If the bees are fairly numerous, it would be best to give them a young queen.

J. GILBERT.—Comb is touched with foul brood—not badly affected, but it is certainly there.

GEORGE R. ALLEN.—Comb contains only dry, mouldy pollen. It is quite healthy.

*** *Several articles, queries, &c., are in type, and will appear next week.*

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Except that in many places it is almost too late to be of substantial service, it is gratifying to note that the weather is now much warmer and more favourable for honey-storing than in the early weeks of July, and whatever disappointment may be felt at the loss of nearly three all-important weeks in that month, it will be, in some measure, modified by the still plentiful show of second-crop clover bloom now in full flower in the mown meadows. As a rule we do not attach much value to second-crop clover for yielding surplus honey, our experience tending to prove that the usual temperature of the later summer months — especially at nights—is too cool for the secretion of nectar in the various trifoliums. There is, however, good reason for believing that the warm spell—warm at nights as well as in the daytime—which appears to have now set in, will quite alter ordinary conditions, and that second-crop clover will really add some weight to surplus chambers.

A fortnight ago we intimated in this column that the clover had every appearance of giving a continuance of bloom for a week or ten days longer; this was on July 16th, and to-day (30th) it seems just as likely to keep on flowering for ten days to come. Moreover, the bees are working on it vigorously, a thing quite unprecedented in all our former experience.

Bee-keepers who are included among the fortunate class having heather-growing moors within reach, seem to be especially hopeful of securing a good harvest at the heather this year, judging by reports which reach us. We are told that "old hands" in Scotland are very confident in so predicting, chiefly from some mysterious connexion between good grouse-seasons and good bee-seasons, and as the grouse are in fine form for the 12th, the bees are sure to have a good time. Anyway, they say its "aye comin'!"

EARLY GRANULATION OF HONEY.—Without entering into the scientific reasons why honey should, in some seasons, granulate much more rapidly than in others, we shall be glad to know if similar results have been experienced in other counties as have been the rule in Kent, viz., that most of the honey gathered in 1892 began to granulate within three weeks after extracting—and this, too, notwithstanding the fact that it was fully sealed over, and well ripened on the hives before being put through the extractor. It is certain that the operation of extracting has caused our own honey to granulate, because that still in the combs shows no predisposition to become solid. We must therefore go beyond to find out the "why and wherefore," and shall defer further speculation on the point till such time as we know if early granulation has been general this year.

CLEARING BEES FROM SUPERS.—It is gratifying to learn of the uniform success attending the use of super-clearers in removing bees from surplus chambers during the present season. No failures are reported, and, as the simple cone has answered perfectly, there is no reason why it should not be entirely relied on until, from some cause or other, it fails to accomplish its purpose. When it does so fail the more costly one may be adopted, but in any case another hill-top in bee-keeping has been reached, and we only need to remind those who use the simple cone clearer attached to hive roofs, and no queen-excluders between brood and surplus chambers, that they must for obvious reasons make quite sure that the queen is not in the latter when they are cut off from the brood nest below.

INCREASING STOCKS BY DIVIDING.—A frequent inquiry comes from correspondents asking how late in the autumn they may increase the number of their colonies by

dividing; the obvious inference being that our querists would like to secure the current season's honey, and, that done, to increase stocks, secure young queens, and so forth, by dividing the combs and bees of each stock into two or more in the autumn. To give an exhaustive reply, embracing what may be done and what should not be even attempted, would occupy too much space, but we may briefly state a few of the guiding principles needful to be kept in view when performing the operations referred to. First, then, it is absolutely essential in queen-raising that there must be drones flying; and, therefore, seeing that these latter are usually killed off as soon as the honey season begins to fail, drone life must be prolonged by artificial feeding as soon as surplus chambers are removed.

Second, where several stocks are to be dealt with it is best and safest to devote one colony to the rearing of queen-cells for the whole, and to begin ten or twelve days beforehand, so that a ripe cell may be given to the queenless portion of all the divided lots two or three days after dividing.

Third, in dealing with the stock in which these earlier queen-cells are to be raised, the old queen should be moved—along with a few combs of brood and food—to a new location, while the queenless portion containing the bulk of the brood is left on the old stand in order to secure a full population for the queen-rearing stock.

Fourth, ten days after the first division has taken place the queen-cells are examined, and only those seen to be reliable are counted, the rest being passed over. As many stocks as there are good queen-cells are then divided as before, but this time the queenless portion is set a little on one side of the original stand, while the other portion is placed a little on the other side, and both are carefully watched to see that as many bees remain in each as will cover the hatching brood. If too few are seen in either hive some young bees must be shaken off the combs of the other one, and allowed to run in to make up the deficiency.

In two days queen-cells will be started in the queenless half of the last divided stocks, and when these are seen a ripe cell from the other stock is inserted in each.

Finally, none but strong and populous colonies should ever be divided for increase, and only those having sufficient knowledge of bee-keeping to put these guiding principles into successful practice should attempt the task of dividing after the natural date of swarming has passed. In a word, they must remember that bee operations, which are simple enough in June, are apt to cause unforeseen trouble when performed in August. Herein lies the difference between what is conveyed in the above sentence and the easy way of dividing stocks immediately after swarming, mentioned some time ago by Mr. Wells, and which some of our correspondents seem very desirous of trying. Therefore, if they desire to make quite sure of succeeding, such queens as are intended for placing at the head of colonies divided after the honey harvest is over, should be raised and fertilised beforehand.

BRISTOL DISTRICT B. K. A.

The Annual Show was held on July 22nd and 23rd in connexion with the Knowle and Totterdown Workman's Flower Show, which was opened at Knowle by the Right Hon. Earl Temple. There were three large marquees erected, one for flowers and horticulture, a second for home exhibits—honey, bees, &c.; a third for live-stock, and a fourth tent was the familiar one of the Bristol B.K.A., and here during both days of the show were given free lectures and demonstrations in bee-keeping by the Association expert, Mr. John Martin, which created much interest. Generally speaking, the exhibits were not so good in quality, nor so numerous as last year, owing, no doubt, to less favourable weather. The season here, however, has not been quite a failure, for one member reported having taken between sixty and seventy pounds of honey from a great many of his hives.

Mr. James rendered useful help in the staging, and Messrs. Hamilton and W. G. Wyatt assisted in demonstrating the lectures. Mr. Jordan also rendered valuable assistance during the exhibition. The active and hard-working General Secretary, Mr. J. Brown, who is himself a practical fruit-grower, gave a short address on the relation of bees to flowers.

An observatory hive stocked with bees, kindly lent by the late Secretary, Mr. H. M. Appleton, was inspected with lively interest by the visitors.

Prize List.

Honey.—Collection of honey: 1st, J. Martin, Bedminster; 2nd, J. Brown, Failand; 3rd, A. H. Waters, Barrow. Twelve sections of comb honey: 1st, J. Trebble, South Molton; 2nd, S. J. Rawbone, Kingswood; 3rd, M. A. Sealy, Atworth Melksham. Extracted honey: 1st, T. Martin, Temple Cloud; 2nd, A. Waters, Barrow Gurney; 3rd, J. Martin, Bedminster. Six sections of comb honey: 1st, J. Fenner, Henbury; 2nd, W. G. Wyatt, Bishopsworth; 3rd, W. Webley, Brently.

The Rev. C. G. Anderson, and Mr. G. Lovell, with the assistance of Mr. J. B. Butler, officiated as judges.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see* 1*st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

TUNISIAN BEES.

[1101.] My attention has been called to various recent articles in the *British Bee Journal* on this subject, in some of which my name has been mentioned. I have no wish to discuss the subject further than I have done already in my remarks before the Entomological Society of London, on November 4th, 1891 (see *Proc. Ent. Soc. Lond.*, 1891, p. xxvi.), but there seems to be an impression that I was informed by Mr. Hewitt that the so-called "Punic bees" were distinct from the ordinary Tunisian bees, and hence that it was intended to imply that there were two distinct races of hive-bees in Tunis. I do not now remember the exact terms used, but I was told that the "Punic bees" came from Tunis (see the report of the meeting of the Ent. Soc. above referred to), and as it is now stated that there is only one race of hive-bees in that country, I presume that the words employed were "distinct from the ordinary hive-bee," which might easily have been misunderstood to bear the construction put upon them, it now appears, in error.—W. F. KIRBY.

[Whatever might have been the exact wording is of very little importance, for the fact still remains that the importer has himself, by his writings, endeavoured to make it appear that what he was trying to push was a new race distinct from Tunisian bees—else why were they called "Punic" and *Apis niger?* That he clearly intended to convey the idea that there were two races of bees in Tunis no one will have the slightest doubt who has read any of his communications. In *Gleanings*, 1st May last, he states that because there were two races of bees in Italy, Italian is not the proper name for them, and that is "why I prefer to call the *new* race I am getting from Tunis 'Punics' instead of Tunisians." Does not this imply that there were two races? But he also says this is a *new* race. Tunisians are *not* a new race, and no one knows this better than the importer, for they were advertised for sale as "Tunisians" in the *B. B. J.* as far back as 1885. We have, we think, conclusively proved that the few queens sent over—until the supply was stopped—were Tunisians and not "Punics,' and that the exporter had no other but ordinary Tunisian bees in his apiary, nor did he, or any bee-keeper we met, know anything about any other bees than those of the country, viz., Tunisians. Mr. Benton, who was one of the first to send out queens from Tunis, says of them:—"I always called them by the most natural name—Tunisian, and never thought best to strain after something a bit fanciful like 'Punics.' Perhaps the party who got up this name had in mind the ancient 'Punic' faith, in which this race resembles that of the old Carthaginians, for, when you least expect it, *i.e.*, when they have been well, and even royally treated, they will sally out and cover the manipulator with their tiny javelins. They carry in more propolis than any other race, and are poor winterers. I handled several hundred colonies two different seasons in Tunis; took some to the Orient with me; also had them tested in Palestine; and I tried them in Munich, and came to the conclusion that in no way do they excel Cyprians, and in some points they are behind that race; I would therefore advise to let Tunisian (Punic) bees quite alone." Many wonderful stories have been told about them, but the climax of absurdity is reached when we read that the person alluded to by our correspondent says in *Gleanings* above-mentioned: "I am also arranging for the exclusive use of an island in the Atlantic, and expect to obtain good results in the way of sending *hand-picked* drones to mate with selected queens, &c." It may be amusing to read this, but it is hardly worthy of comment, and we will leave our readers to form their own inferences. Respectable American bee-papers are, however, now beginning to give their experience of these bees, and we need hardly say that it entirely agrees with what we have said, and not with the stories told about them by interested parties.—EDS.]

PUGNACITY OF QUEENS.

[1102.] A curious illustration of the pugnacity of queen-bees from their birth occurred here recently. My man and I were cutting out queen-cells from a hive which had just swarmed I put two cells into his hand. The queens came out almost at once, and immediately engaged in mortal combat. My man held out his hand to me, but before I could separate the royal rivals, one queen had killed the other. Acting on the rule of the survival of the fittest, I placed the conqueror in a nucleus hive, where, after an interval, she filled her three frames with eggs, and now has been permitted to rule over a larger realm.

What a variable season this has been! For a week we had such perfect weather as can only be completely enjoyed by those who, like myself

are obliged to spend six wintry months "remote from towns," cut off from clubs and all the pleasant frivolities of town life. The bees were maddened with joy. To one enormous swarm I was obliged to give ten frames and three boxes with shallow frames, or, as we call them here, "extracting-boxes." Such was the honey-glut, and so full of honey was each hive becoming, that all supers were doubled, lest breeding should cease from sheer want of room. The bees' week, alas! came to an end, and has never begun again. I expected a ton of honey from six hives and their swarms; now, I must be satisfied with 2 cwt. My good friend and watchful neighbour, the village policeman, sorrowfully admits that he has little or no honey. Another neighbour tells the same tale. But even if the honey harvest is scanty, the bees have done me no trifling service in fertilising the blossoms. There are some apricots and peaches. Currants, strawberries, and raspberries are all an excellent crop. There is a very fair crop on the cordon pears. The standard apple trees are full of fruit. On this 22nd of July I have enjoyed the fruit of the "Early Julien" apples, planted three years ago. For these, and for many happy hours, I must thank the "blessed bees."—E. Bartrum, D.D., *Wakes Colne Rectory.*

CURING FOUL BROOD.

[1103.] The advice you so kindly gave me *re* foul brood has been carried out, and I am pleased to be able to report a marked change in the hive, as there are patches of perfectly healthy brood in all stages—in fact, I could only see one grub at all discoloured, but can still see some few cells mith the brown mucus at the bottom. Now this fœtid matter must perforce be dangerous to any bee attempting to clean it out, and I should like to make as sure as possible that the cure is complete, and have thought whether it would not be advisable to renew all those combs, or *all* the combs if you think it advisable. I have some worked-out combs and foundation, and thought of giving, say, four frames of each. Query: Would you advise doing it now or in the spring?

[Combs now, foundation in spring.—Eds.]

I do not mind any trouble so long as I can get rid of the disease.

Query for your consideration: Could not the interior woodwork of a hive be *impregnated* with some preventive so as to make it disease-proof? This would be one step towards making the bacillus, and his relation the microbe, miserable and the bee-keeper happier.—F. J. Cribb, *Gainsborough, July 27th.*

[Would that we could hear of such a preventive! —Eds.]

UTILISING DRIVEN BEES.

[1104.] With reference to Query No. 593, p. 279, on "Driven Bees," I may perhaps just mention how I kept driven bees some years ago.

When I first commenced bee-keeping, skeppists around here used to give me their condemned bees for the "driving." After putting two or three lots together in an empty skep, I used to give them twenty pounds of sugar made into syrup. Strange to say, in spite of such amateur treatment, I never lost a stock, although I am bound to add that they did very little more the following summer than to just build themselves up into a strong stock—sometimes giving a swarm, but very rarely any surplus. It proves, however, how hardy bees are, seeing that these bees should have built comb in a perfectly empty hive, and have kept themselves through a whole winter and cold spring on twenty pounds of sugar given them not in the best of feeders. Nowadays, when I have driven bees, I simply mix two or three lots together, and put them on empty combs, taking care that they have a young queen and I give them twenty pounds of sugar syrup in a rapid feeder.

They usually come out the following spring quite as good as stocks wintered in the natural manner with natural stores, and having cost—the driven bees—about 9*s.* per stock, as I consider the sugar should be worth about 4*s.*, and the empty combs at least 5*s.*—Apiarist, *Wychwood.*

MOVING A SWARM IN THE DAYTIME.

[1105.] May I briefly refer again to my question (1099, p. 288) on this subject? I judged from your previous advice on May 26th (543, p. 205), that the only reason against putting a swarm into a bar-frame hive in the daytime was the risk of its taking flight if unskilfully handled. This risk I overcame, and got the bees safely into the frame hive. Then why not move them at once to their permanent stand? Because in that reply I was instructed to do so with the *skep,* not to leave it under the tree. And I do not see why, as far as the fighting is concerned, it should be less dangerous to move a swarm in a skep to its permanent place at once than a swarm in a bar-frame hive. I ask for this information because I think that it is a point which, if discussed, would be helpful to many beginners. I do not quite understand either whether the "flying bees" you speak of in your reply on p. 289 are the still unsettled bees of the swarm, or bees from other hives, seeking admission to the new hive. If the former, I should have thought they would have been recognised and admitted.—Lincolnshire Rector.

[The advice given in May last had entirely passed from our mind when endeavouring to account for the "fearful carnage of bees" referred to in 1099. There is, however, no inconsistency in the replies given. Moreover, when mischief such as is described on p. 288 followed, we repeat that the most likely reason for it which occurs to us is the one given in reply. Had the swarm been left where first hived in the skep, or even in the frame hive, until the bees had all "gathered in," there would have been no risk in then moving it to its permanent stand. The objection to the "old practice" of leaving the swarm where it settles

till the evening, and then moving it to its permanent stand, is that many bees will be found flying round the spot next day, and these bees do not join the swarm at all, but return to the parent hive.—EDS.]

BEES IN YORKSHIRE.

[1106.] I have not lost all interest in bees, if I do not correspond as I used to. I take the *Journal* as usual, and have continued to do so for years. I sometimes wonder where my old opponents, Webster, Simmins, &c., are. I was glad to see old friend Abbott to the fore again.

Well, I am glad to see the "*British*" *Bee Journal* has not gone over, as I thought it once would, and changed its name to the "*Foreign*" *Bee Journal*. Glad to see people are getting their eyes open to those frauds and fads. I am also pleased to see that the principles I advocated are now considered to be right, in spite of all the opposition they received at the time. I allude to "extracting from brood combs," which I showed to be bad policy, &c.

I am sorry to have to send such a bad report as in my "echo" herewith. I was just getting my apiary together again after the bad seasons we have had, in which I lost fifty hives, and had to destroy 200 combs through moths, &c. Well, I have lived to see all those who kept foreign bees come to grief, so we must stick to our good old friend, the "British" bee—none can equal it *when* the seasons come favourable. The weather is awful here, as usual; it has never ceased raining the whole day, and every one hereabouts is almost starved to death, notwithstanding they are wearing their winter clothing. I am just wondering if I could save my bees by feeding up, and sending to the moors; it's a great expense, but I am glad to say I never yet had a failure there, and never lost a single colony, whilst many I know have invariably done badly, through want of knowledge. Yes, I think I will write for some sugar, and try to keep my apiary together; it may possibly be a better season next year—can't be worse.—F. BOYES, *Beverley*.

ANTISEPTIC QUILTS.

[1107.] I read with much interest Mr. C. N. Abbott's letter on the antiseptic quilt for beehives, as anything tending to keep our bees healthy and free from disease should be known as widely as possible. Now, I note that Mr. Abbott has *tried* the asphalte felt for quilts, and makes a *suggestion* also for asphalte for a floor-board; but *experientia docet*—at least, it does me—that asphalte is not a good thing for a floor-board, on account of its great heat-absorbing quality. This absorbs the heat from the bees, and chills them. I one winter kept eleven hives in an asphalted stable-yard, which caught the sun for a few hours only. The bees, returning from a winter flight, *would* settle on it, and died in thousands, chilled, as I could not always be at hand to pick them up and resuscitate them with warmth, as I did many times. Its colour and the nature of its surface greatly help it both to radiate heat and also to absorb warmth, whilst the asphalte felt on the top is a good non-conductor of heat (as well as an antiseptic), on account of the number of minute particles of air retained in its fibres. I shall certainly try the effect of coarse canvas quilts dipped in an equally good antiseptic, viz., Stockholm tar, for of the value of tar as such there is no doubt. Whether the bees will raise any objection I cannot say, but that it will be healthy and dry is certain, and they will have to get used to it.

I hope, now that Mr. Abbott is restored to health, we shall more often see a letter from his pen, giving us younger members of the craft the benefit of his vast experience, and I trust he may long be spared to add to it.—T. J. CRIBB, *Morton, Gainsborough*.

[As we have explained in reply to Query No. 603, p. 297, Mr. Abbott's asphalte felt is not of fibrous character.—EDS.]

Echoes from the Hives.

Beverley, July 19th, 1892.—The season of '92 will be long remembered by people who have the misfortune to live in East Yorkshire as one of the worst ever experienced. It has been one succession of storms of rain, lightning, thunder, hail, and tempest, with a bitterly cold wind blowing nearly the whole time. Whilst our southern friends have been enjoying themselves in the sunshine, we have scarcely seen the sun at all. It has been one continued downpour since the middle of May, and the floods in consequence have been terrible. Not only have sheep, pigs, and poultry been carried long distances, but *cottages have been swept bodily away* (I can assure you this is no exaggeration). Well, then, as to the bees, they have had a sorry time of it. They have killed off their drones, thrown out their grubs, and prepared themselves for starvation. I have thirty-three hives, and have not taken an ounce of honey, and, worse, I have been feeding, off and on, since the beginning of June. I don't know what to do with them. I have tired of feeding, and besides, I have not the time to keep on with it, so I think I shall just allow them to die a natural death. Such is bee-keeping here.—F. BOYES.

Yockleton, Shrewsbury, July 22nd.—I am happy to report that my bees have given me very satisfactory results this season.—J. B.

Burton-on-Trent, July 23rd.—We had a very cold spring, but bees wintered well on the whole; season late, but it opened first class, plenty of bloom, and we had one week of good weather. Wild mustard in bloom, but just as the clover was ready the weather broke up, and has been

very unsettled ever since; one or two days fine, and then cold and wet, with high winds. I never saw a better show of clover bloom in this district, and the bees have made good use of their time when the weather permitted them to work. The season will not be a good one, but what honey I have taken is of good quality, and if the weather will but be fine we may get a further supply from the limes.—G. Toon.

Stoke Prior, Bromsgrove, July 22nd.—Weather here very bad for the last fortnight. What with rain, wind, and cold days and nights, one dreads to anticipate results. On July 19th I found several sections nicely capped (there are forty sections in the crate), but could not remove more than one on account of the rain. A swarm hived in a straw skep containing comb on July 3rd has taken down sixteen pounds of syrup. On the 19th I supered it, and put plenty of clay round the junction and wrapped up warmly. Wasted labour I fear if this inclement weather continues. The Horticultural Show for this district (Stoke Prior) is to be held August 13th, when I hope to exhibit some sections and extracted honey. This may encourage others to keep bees, and so be the means of competing at the exhibition next year. I will let you know by another "echo" later on how I succeed. Don't know how I should get on in my bee-keeping were it not for your "Useful Hints" in *B. B. J.*—Percy Leigh.

Honey Cott, Weston, Leamington, July 23rd, 1892.—The fiat has gone forth: "Season over! Slay the drones, or turn them out as so many useless consumers!" Although it has been a bad one, I have got some nice coloured sections, in fact, I have not seen any dark honey about at all. People have remarked that, although there was such a lot of beans about, the bees scarcely visited them. We have an abundance of white clover here, and in spite of the cold, with the night temperature down to 42°, and in the day time scarcely exceeding 50°, if it will but continue warm, as it is just now, we may yet have some compensation for all the wretched July weather. Glad to read there have been some good takes of honey in some parts, but it seems as if human hopes are doomed to be partly disappointed. However, we must hope for a better season another time, although it has not been so bad with me as with the friend who had to feed all summer, and had not put on sections. I can say that I have put some on, and taken some off full and good, and shall have a nice lot of extracted honey when I can find time to sling it out, as I know it's *there!* Glad to see our old friend Abbott is all right again, and hope Mr. Huckle will return strengthened after his visit to the seaside. Towards dusk I had a large swarm that I did not wish to put by itself, so I raised up the entrance of the hive I wished to join the bees to an inch or so, and dredged them with flour, then blew a little smoke to those in the skep, turned them upside down, and dredged them also. I then shook them out on to a circular tray, and they ran in and joined themselves to the others quite amicably.—John Walton.

Ecclefechan, N.B., July 27th.—We have a beautiful day to-day, and I have taken the opportunity, while the bees are from home, to look inside my hives. There is a much better prospect of honey than I expected. If the clover will only keep flowering for a week or two I may yet get a few pounds of honey. They will have a fine day or two at Inverness, and I see by the papers there is a good show.—F. M'C.

Nyon.—From accounts I get from different quarters, with us the harvest is better in the mountains than in the plains, where the drought is felt much more severely. I have tried the Porter bee-escape and could not be better satisfied with its action. I put it on in the evening, and there only remained from one to six bees in the supers next morning. I am going to Givrins to assist at extracting the honey there. I hope that your articles on African Bees will put an end to this annoying affair. I have read in *Gleanings* several articles on these bees that are on the way to establish the truth. Evidently the bees in Mr. Root's hive that Langstroth has examined are already cross-bred. The day before yesterday I dined with De Saussure, who thinks that *Apis unicolor* may be only a variety of *A. mellifica.* He has, it is true, found some difference in the neuration of the wings of *A. unicolor* and *A. mellifica* of Algeria, but he has also found such variations in the same species of bee. He will make further examinations. He has just returned from a voyage to Tunis, and penetrated the desert more than 400 kilometres south of Tunis, that is to say, farther south than Sbaida. They missed a well and his horses nearly perished of thirst.—Ed. Bertrand.

Queries and Replies.

[602.] A friend of mine invited me to go and drive some of his skeps, which I did on Saturday night last, and united the driven bees with those he intended to keep for stock. 1. Will two lots of bees added to each stock be sufficient to make them strong enough to stand the winter? 2. During the past season one of his stocks threw a swarm, and it settled in the usual way, but, before they could be hived the bees went back again to the bee-shed, and, instead of entering the skep again, settled under the shelf, and have built combs, and appear to be a strong colony. Which is the best way to take the honey? If I take the combs off now, and brush the bees off, they will go back to the spot again.—J. Whymark, *Colchester, July 25th.*

Reply.—1. Quite enough and to spare, we should say. 2. Are you quite sure the bees working under the shelf, as described, form a really separate colony with its own queen? or do the bees make the under side of shelf their "surplus chamber?" If the latter supposition

is correct the honey may be easily appropriated, one comb at a time, and the bees compelled to return to their proper domicile. If otherwise write us again.

[603.] *Antiseptic Quilts.*—Enclosed please find piece of *roofing felt*. Will you kindly say in next issue if it is the kind Mr. Abbott refers to on p. 264, No. 1073?—G. W., *Aylesford*.

Reply.—No; the material forwarded is not at all like that referred to by Mr. Abbott. Yours is the common roofing felt made of coarse waste hemp, steeped in coal-tar. Mr. Abbott's sample has no stringy, textile fabric about it, and cuts something like vulcanite. As several inquiries have reached us regarding the latter material, perhaps Mr. A. will kindly mention where it is to be had.

[604.] *Buying Bees and Stocks.*—Instead of driving bees from straw skeps, would it not pay to buy bees, honey, and hive, and send them to our apiary, a distance of one mile? Or would it do to transfer hives bodily to a distance of three miles?—E. Renwood, *Chichester, July 25th.*

Reply.—The facts given above are too meagre to guide us in advising you. If stocks of bees in skeps are offered cheap enough, and you want to increase stocks or get swarms next year, it might pay better than buying driven bees, but you give us no idea of what your plans or purposes are.

[605.] *Dead Drones.*—I send you a dead drone which was pulled by a bee out of a hive containing a first swarm, which came off July 16th, and which was placed in its former position, the stock hive being placed opposite. It seems as if it had been dead for a day or two. Can it have impregnated the young queen opposite and then have come home? I would like to know what you think about it.—F. M'C., *Ecclefechan.*

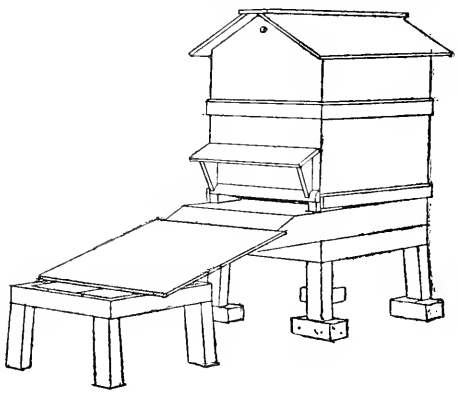
Reply.—The drone you send had not impregnated the young queen or it would not have been in the hive, as the drone dies in the act. It is, however, not unusual for drones to be found with protruded organs during very hot weather, or during the excitement of swarming. We have known the organ frequently extruded while the insect was held in the hand.

[606.] *Moving Bees.*—1. I have bought two stocks of bees in frame hives twelve miles distant from here. They are well stocked with honey, and no swarms have issued from them this year. The combs are very irregular, and not in line with frames. I need not move them until spring. Would you advise me to put them right at once, or let them winter as they are? 2. I have also purchased six straw skeps (three old stocks and three swarms). I intend driving these bees. Would it be best to drive them there before moving them, or might I bring them home before driving them? 3. What quantity of cane sugar I shall require to feed these bees on for the winter? These bees are in a late district, and well surrounded with white clover and lime-trees.—S. Dickinson, *Maidstone.*

Reply.—1. The most suitable time to do the cutting out and transferring of the combs would be about the third week in September. 2. The bees would carry home safer in boxes after being driven. 3. Supposing the driven bees are put on ready-built combs, entirely foodless, each lot should have fifteen pounds of sugar made into syrup by boiling in about eight pints of water.

[607.] *White Larvæ cast out—Hiving Swarms.*—1. I had a swarm on the 25th June, and on the 8th July a second swarm from same hive. A few days afterwards, both the parent hive and the first swarm began pulling out white larvæ. Can you tell me the cause of this and what is the remedy? 2. On the 13th inst., I took about eight pounds of honey from parent hive and filled it up with empty bars—was this right? 3. Being quite a novice, I should be glad to know when is the proper time to take honey? 4. Which way do you recommend hiving a swarm into a bar-frame hive, after having caught them in a skep, and how long should they be fed?—C. J. T., *Newport, July 20th.*

Reply.—1. The remedy is "feeding," for when immature brood is cast out—not seldom partly eaten by the bees—it pretty safely indicates that food is not coming in well. 2. Taking combs containing honey from the brood chamber of the parent hive (after swarming) and substituting frames of foundation in the middle of July, was not a wise proceeding. Had honey been plentiful at the time, it would have been good practice to put the combs through the extractor and return them to the hive for refilling, but not otherwise. The proper time to take honey is whenever it is sealed over; or just before the time when bees begin to remove it down into the brood chamber; which they will do, if left to themselves, as soon as the season is over. 4. The method of hiving we recommend is to prepare the hive as in the cut below, and



when the temporary platform shown is covered with a table-cloth, the bees are thrown out on to it and run in at the wedged-up entrance.

[608.] *Preventing Infection in Hives.* — 1. Do you think my bees, located 500 yards away from a foul-broody apiary, are likely to catch it? 2. Do you consider healthy brood a medium for the spores, or only chilled brood? 3. Will naphthaline flavour honey if put in hives during the glut? I wish there was a standard code of points for honey, and judges would go by it; some have a rage for colour and some for flavour—if one has two samples, he does not know which to send.—BEE-KEEPER, *Beds.*

REPLY.—1. There is always risk in diseased bees being near healthy hives. The remedy is to use preventives. 2. Dead or "chilled brood" is a fine *medium* in which the myriads of spores will thrive and grow. Healthy, living brood, on the contrary, is not in any way favourable to the growth of the bacillus. 3. No, if used as directed.

[609.] *Bees Refusing to Swarm.*—I purchased this spring a stock of bees, in a large cheese-box. They were well stocked with honey, and I thought of having an early swarm for my bar-frame hive. Early in May they had every appearance of swarming, hanging out in immense quantities; then came three or four wet and dull days. Still they have clustered out. I have waited patiently for a swarm, but none has come. Three weeks ago I put twenty-one one-pound sections on the box; the bees went up at once. Now, on examining the box, I find the bees still here, but no honey have they made. Do you think the stock is queenless; and what would you advise me to do with them?—G. R. A., *Wickham Market.*

REPLY.—It does not at all follow that because bees refuse to swarm they are queenless. The wet weather and giving additional room has, no doubt, helped to prevent swarming, and it is not likely they will do so now. It would have been easy enough a month ago to have made an artificial swarm, but we would not advise doing so at this late period of the year.

[610.] *Removing Sections and Surplus Honey.* —When removing sections this year I tried the plan of subduing the bees by dipping a feather into carbolic solution, and then placing it close to the section I wished to remove. This plan answers admirably, so far as I can judge, but please inform me—1. Does the solution, when applied in this manner, have an injurious effect upon the bees? 2. Will the solution which comes in contact with the comb injure or spoil the sale of the honey? 3. Will August 31st be a suitable time to remove crates of sections, surplus frames in brood next, and begin feeding if required? — PERCY LEIGH, *Stoke Prior, Bromsgrove.*

REPLY.—1. Not if the carbolic acid does not actually come in contact with the bees. 2. It is obvious that carbolic acid will, undoubtedly, injure any honey smeared with it, but in using these intimidants care should be used to avoid such mischief. 3. You will find that sections left on so late as August 31st will have a good portion of the honey carried down into the brood chamber below.

[611.] *Renewing Combs.* — I have two square wooden hives which are doing very well. I have already had ninety-one pounds of honey this year from the two, but the combs are now some six or seven years old, and I fancy it is time they were replaced with fresh ones. Supposing I had it done this summer, how should I set about it? I can, of course, leave it till next year if necessary. I have other two wooden hives (standard size) ready to take their place with fresh frames and foundation.—J. S. D., *Gravesend, July 22nd.*

REPLY. — The most favourable time for renewing combs would be the months of April and May next year, when the bees cover, say, four or five frames well. When the weather is warm remove one outside frame, and space the combs out so that a frame of foundation may be inserted right in the centre of the brood nest. Repeat this at intervals of a week, only moving one comb at a time, as long as the weather keeps warm, and so get new combs built.

[612.] *Dividing Stocks.* — I have several stocks of bees; ten frames brood in brood chamber, packed with bees, and ten frames (standard) in super, also packed with bees. *Could I, with advantage,* divide these stocks so that they would be strong enough for wintering? If so, what course would you advise?—T. G., *Staffs.*

REPLY.—Your italics create a difficulty, *i.e.*, it cannot be called *advantageous* to divide stocks at this season at all, except for the purpose of increase, and it is also somewhat late for the operation. However, if you have plenty of drones left, and will feed regularly to prevent the bees destroying them, it may be done as follows:—Put the queen, with the comb she is on and two other frames of newly hatching brood into a new hive, and set this hive on a new stand some distance away from the old one. Fill up with frames of comb, and some with food, but no more brood than is in the three frames already mentioned; shake off from the other brood combs as many young bees as you can, and allow them to run into the new hive, and join their old queen within. The bees in old hive, which we will call No. 1, will, of course, raise queen-cells from the eggs left with them. Ten days later, if the queen-cells in No. 1 are all right, the other hives which it is intended to divide may be treated in the same way, and when they have begun to raise queen-cells, the latter may be cut out and replaced by newly hatching ones from the hive first operated on, thus saving several days' time in re-queening.

[613.] *Transferring Bees.*—A friend of mine has a strong stock of bees in a skep which she is anxious to have transferred to a bar-frame. The skep stands in a bar-frame hive without the frames. I advised to let it remain there till May next, as it would be protected in winter

from the weather, and then transfer it. Was I right; or would this be the better time to do it? —INQUIRER, *Cork*.

REPLY.—We would certainly advise the transfer being made now, as there is still ample time for the bees to attach the combs to the frames and fill them, and, if fed, they would probably build up into a strong stock before winter, and be ready in the spring for the season's work.

[614.] *Metheglin.*—Will you please tell me, or make inquiries in your columns, as to a good recipe for making "metheglin"—a drink decocted from the dregs and waste honey after extraction from the comb?—H. E. H., *Stow-on-Wold.*

REPLY.—The following was given in our columns last year by Mr. W. Preece, and will perhaps suit you:—Save all scraps from the extractor, and spare pieces. At the end of season, collect all broken combs which are clean and free from mould. Put them into a copper with sufficient water to cover them, boil till combs are dissolved. Get a large shallow pan and strainer with a cloth in, bail out into the cloth, and wring the liquor well out from cloth, and empty wax back into the copper. Repeat this until all is used from the copper. Let this stand all night; when cold take off the wax. Now put all the liquor back into the copper again, and boil for one hour. Add some ginger and a little nutmeg according to the quantity of liquor made. Put in about half or three-quarters of a pint of "yeast;" stir up well; when cold put in small cask or stone bottles. Save sufficient liquor to fill up the cask, as it wastes in fermenting. When fermentation is over, bung up; it will then keep or years.

[615.] *Introducing Queens.*—1. I tried to introduce a Carniolan queen; will you kindly suggest reasons for my failure? The old queen was removed at the time the new one was caged upon the combs. After forty-eight hours I liberated her, and awaited developments; she was immediately seized, but I rescued her, and shut her up for another twenty-four hours; upon letting her out the second time, she was at once stung fatally. I have never failed before. 2. Is it wisest to introduce a valuable queen to a swarm or to a stock which has been entirely deprived of brood? I may mention there were no queen-cells in the stock in question. As I gave money for her Majesty, I am now a poorer and sadder man; with your kind help I may yet be a wiser one.—DISAPPOINTED, *Burford, July 25th*, 1892.

REPLY.—1. After a queen has been once attacked by alien bees, the greatest care is needed in liberating her, and means should be adopted to prevent mishap, such as watching that the bees do not crowd about the cage as if meaning mischief. The safest course, when purchasing valuable queens, is to get a guarantee for safe introduction from the seller.

[616.] *Skeps on Frame Hives.*—Like many other cottagers profiting by advice in your *Journal*, and wishing to give up the skeps, I have adopted the plan of placing the skeps on top of hives, and allowing the bees to work down into them. Your valuable advice on the following points will oblige:—1. After finding the queen has established herself in frames and excluder zinc has been placed between skep and frames, what provision should be made to allow hatching drones to get down from skep to hive? 2. After honey-flow is over, or when the skep is full, what is the easiest way to get the bees out of skep? Would it do to lift the skep, place the quilt on frames, and put back the skep, raised at bottom to allow the bees to get out, and allow them to escape through cones in ventilating holes in roof of hive? 3. Are cones placed on both front and back ventilating holes of hives? 4. What is the best plan for cottagers to take the honey from the combs from skep? —JOHN SMITH.

REPLY.—1. The easiest mode which suggests itself would be to open the original skep entrance about the middle of a warm day, and allow the drones to pass out. 2. Yes. 3. Sometimes on front only, but it is quite optional. 4. It may be got out by means of a cheap extractor, or by "dripping"—*i.e.*, slicing the combs and allowing the honey to drain out.

Bee Shows to Come.

August 17th.—Wotton-under-Edge District Bee-keepers' Association. Secretary, G. Gunston, Bradley Green, Wotton-under-Edge. Entries close August 10th.

August 17th.—Wilts B.K.A. Annual County Show at Swindon. For schedules apply to W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford. Entries close August 10th.

August 18th to 20th.—North of Scotland Bee Society. Annual Show at the Central Park Kittybrewster, Aberdeen. Entries close August 15th. For schedules, apply A. M. Byers, 18 Union Terrace, Aberdeen.

August 20th.—Honey show in connexion with National Co-operative Festival at Crystal Palace. Liberal prizes. For schedules apply to the Secretary, A. O. Greening, 3 Agar Street, Strand, W.C.

August 23rd and 24th.—Staffordshire B.K.A. Annual show at Stafford. Liberal prizes for bees, hives, and honey. Entries close August 6th. For schedules apply to Messrs. Smellie and Jones, Newcastle, Staffs.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Also, in connexion with the Notts B. K. A., at Thorneywood Chase, August 11th.

August 30th and 31st.—South of Scotland Horticultural Society's Show at Dundee. Classes for honey. Entries close August 22nd. For schedules apply to the Secretary, Mr. John Blacklock, Solicitor, Dumfries.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

TRADE CATALOGUES RECEIVED.

T. Louth (Riseholme, Lincoln).—Mr. Louth sends revised and extended price list of his 'Unique' extractors, from which we gather that they are giving much satisfaction to purchasers. They are now sent out in seven forms, varying in price from 7*s.* 6*d.* to 2*l.* 2*s.*, the smallest taking three one-pound sections, while the largest extracts five standard frames at one time.

George Stothard (Welwyn, Herts).—Special attention is invited by Mr. Stothard, in the list before us, to his great sale at reduced prices, to clear off his large surplus stock of goods.

Hutchings Bros. (St. Mary Cray, Kent).—The above firm are making a speciality of cardboard section boxes, glazed both sides, at 1*s.* 5*d.* per dozen.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A Reader of the *B.J.* will be glad to hear of a bee-keeper, residing in or near Gateshead, willing to assist him in dealing with a bee transaction requiring personal attention. Address "A Reader," office of this paper.

Augustus (Renfrewshire).—Much obliged for cuttings sent; hope to make use of them in the less busy season.

R. I. P. (Elgin).—*Super Clearers.*—These can be had, of either form, from any appliance dealer.

T. G. (Staffs.)—*Amount of Food for Winter.*—1. If the seller guarantees the sugar to be pure cane, we should not like to dispute his word; but we do not think it is. 2. Yes, fifteen pounds will suffice, but seventeen pounds would be better, since you begin feeding so early as first week in September.

*** *In consequence of Bank Holiday, several articles, including "Notes by the Way" and "In the Hut," reached us too late for insertion this week.*

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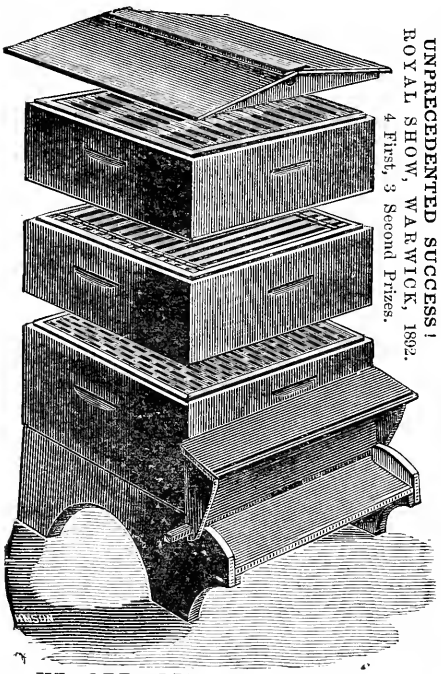

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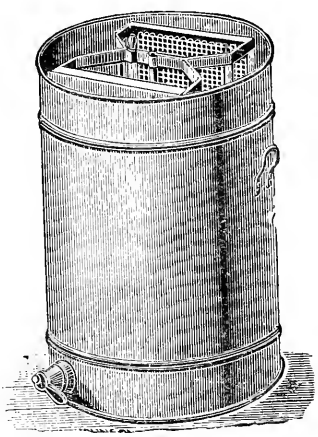

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

No. 529. Vol. XX. N.S. 137.] AUGUST 11, 1892. [*Published Weekly.*

Editorial, Notices, &c.

TO OUR READERS.

The constantly increasing number of queries reaching us from bee-keepers who are obviously beginners, and who are, moreover, not regular readers of the *B.B.J.*, make it incumbent on us to venture a reminder that what may be new and useful information to them has over and over again appeared in our pages, and that subscribers and constant readers have, in consequence, some cause for complaint when space is taken up with what they consider too frequent repetition of information quite elementary in character. It is so easy to say "I want to do so-and-so, please tell me how to proceed," and *our* complaint—not a very loud one at any rate—is that some correspondents do not even take the trouble to refer back to numbers a week or two old, or bear in mind what has already appeared when asking questions.

On the other hand it is, as a matter of course, our earnest desire, first, to cultivate and bring in as many new readers as we can; second, to remember that our mission is to teach and be helpful to those most needing assistance, viz., beginners in bee-keeping. That we are securing the first object referred to may be gathered from the fact that one wholesale house has within the last few days increased their weekly supply of the *B.B.J.* by nearly a hundred copies. We, therefore, ask that older readers will bear with us when repeating advice, which no doubt could easily have been found in former numbers if our querists had these by them, but which unfortunately they have not.

Much is done by way of "spreading the light" when old hands at the craft give their experiences in our correspondence columns, and so long as this department is kept thoroughly "up to date" with all the latest "finds" of practical men chronicled therein—as we are proud to say it now is—we shall be continually transforming novices into skilled bee-keepers and so lessening the evil we have hinted at.

It would also be very gratifying could we have given a satisfactory reply to the oft-repeated inquiry, "Why the *B.B.J.* does not find a place on every bookstall." This devoutly-to-be-wished-for consummation has, however, not yet been reached, and we can do no more than say that by ordering beforehand it can always be obtained at railway bookstalls on Thursday of each week, and by post from this office at the rate printed on the first page of cover.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of July, 1892, was 13,179*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

SCOTTISH B.K.A. SHOW AT INVERNESS.

The second summer show of the Scottish Bee-keepers' Association, held in connexion with the Highland and Agricultural Society, on July 26th to 29th, was from every point of view a great success, the weather all through being perfect, and the position at the base of Tomnahurich—the Hill of the Fairies—most picturesque; the display of appliances and honey was highly creditable; and, lastly, the attendance of Highland bee-keepers was unparalleled. The two or three bee-keepers who journeyed together from Perth to Inverness had their attention called almost constantly to the immense clover pastures that lined the sides of the railway for nearly the whole distance, these fields being literally sheets of white clover blossom, while the distant hills were just assuming their purple tint from the bloom of the heather. After seeing these sights they were prepared to find big exhibits of Scotch clover honey; owing, however, to the lateness of the season, the mainstay of the show was the honey of English bee-keepers.

In the section classes, Mr. Sells, Mr. Prior of Herts, and Mr. Seymour of Henley-on-Thames, were the principal prize-takers, the only two Scotch exhibitors showing new comb honey being lady bee-keepers, and one most deservingly taking second prize.

In the extracted honey classes, also, English exhibits were again the mainstay, those from Scotland being mostly last year's granulated honey, there being some very good heather honey among this.

The local Highland classes were very small. With the exception of one small exhibit, sent 'not for sale,' every bottle and section was sold, a Scotch firm having an establishment in London being the largest purchasers.

In the invention class there were several entries, principally of swarm-catchers in some shape or other.

The hives call for little remark, the only one

at all worthy of notice being that by Mr. Nichol Dodds, which had a capital attachment to the porch and alighting-board, to prevent overheating and stifling when carrying to the heather. As a fine specimen of joiner's work, the hive shown by Mr. McDonald of Lynchat was such as we have never seen surpassed.

We never remember a show at which so large an attendance of actual bee-keepers gathered together as were present on the last two days, and Mr. Wishart's energy led to a great access of members for the Scottish B.K.A. Lectures in the tent were given each day by Mr. T. B. Blow. Sir T. D. Gibson-Carmichael sent his interesting collection of English and foreign beehives and appliances, and also his gigantic model bee, which was much admired, the latter was explained at intervals by Sergt.-Major Hill.

On Thursday a meeting of the members was held in the pavilion of the Highland and Agricultural Society, Mr. Menzies, the Secretary of that Society, taking the chair.

Altogether, the show has been a most interesting and instructive one, and great good to Scotch bee-keeping will no doubt result from it.

PRIZE LIST.

Class 1. Best observatory hive stocked with bees and queen.—1st prize, Hugh Fraser, Strathpeffer; 2nd, Sir T. D. Gibson-Carmichael, Bart., Castlecraig; 3rd, Lady Gibson-Carmichael.

Class 2. Best collection of appliances.—1st, Geo. M'Lean, Beauly.

Class 3. Best hive for general use.—1st, N. Dodds, Melrose; 2nd, James Munro, Forfar.

Class 4. Best hive for cottagers' use and transmission to heather.—1st, Geo. M'Lean; 2nd, James Munro.

Class 5. Best frame hive made by an amateur.—1st, J. McDonald, Lynchat, Kingussie; 2nd, Geo. M'Lean; 3rd, Dr. Geo. Fyfe, Jedburgh.

Class 6. Best super for comb honey in 5-lb. or 10-lb. parcels.—1st, Geo. M'Lean.

Class 8. Best pair of section racks.—1st, Alex. Paterson, Delny.

Honey.

Class 9. Collection of comb and extracted honey.—1st, Tom Sells, Uffington, Stamford; 2nd, James Munro.

Class 10. Super (not sectional) of comb honey.—2nd, Wm. W. Pryor.

Class 11. Twelve 1-lb. sections.—1st, Tom Sells; 2nd, Wm. W. Pryor; 3rd, James Munro.

Class 12. Three 1-lb. sections.—1st, H. W. Seymour, Henley-on-Thames; 2nd, Miss T. Mayer, Craigmill, Forres; 3rd, Tom Sells.

Class 13. Single section of comb honey.—1st, Wm. Sells, Uffington.

Class 14. Best 6 lbs. of comb honey in sections gathered in Scotland.—1st, James Munro; 2nd, John McDonald.

Class 16. Best 12 lbs. of extracted honey.—1st, Tom Sells; 2nd, Capt. W. St. G. Ord, Bury St. Edmunds; 3rd, Wm. W. Pryor.

Class 17. Best 6 lbs. of extracted honey gathered in Scotland.—1st, John McDonald; 2nd, James Munro.

Class 18. Best 3 lbs. of extracted honey (liquid).—1st, Wm. Sells; 2nd, Tom Sells; 3rd, Capt. W. St. G. Ord.

Class 19. Best 6 lbs. of granulated honey.—2nd, Capt. W. St. G. Ord; 3rd, James Munro.

Class 21. Best cake of beeswax.—1st, H. W. Seymour; 2nd, Donald Reid; 3rd, Geo. M'Lean.

Class 22. New invention or improvement.—1st, N. Dodds; H. C., Geo. M'Lean.

Local Classes.—Hives.

A. Hive for general use.—1st, Geo. M'Lean; 2nd, Alex. Symon, The Mound.

B. Frame hive made by an amateur.—1st, Alex. Paterson.

Honey.

D. Super comb honey (not sectional).—1st, Geo. M'Lean.

E. Twelve 1-lb. sections.—1st, James Wilson, Elgin.

F. Single section of comb honey.—1st, James Wilson.

G. Super of heather honey.—1st, Miss T. Mayer.

Judges:—Appliances: Rev. R. M'Clelland, The Manse, Inchinnan, Paisley; Mr. Alex. Reid, Balloan, Muir-of-Ord. Honey: Mr. T. B. Blow, Welwyn, Herts.

LANCASHIRE AND CHESHIRE B.K.A.

The above Association held an exhibition of bees, honey, and appliances, in connexion with the Manchester, Liverpool, and North Lancashire Agricultural Society's annual show, at Newsham Park, Liverpool, on July 28th to August 1st. The entries for appliances were small, considering the liberal prizes offered, and in consequence the awards went to one exhibitor, Mr. Harbordt, of Liverpool. The schedule differed somewhat from the ordinary form, in that the usual class for collection of bee-appliances was here superseded by classes (A) for the "Best Complete Outfit for a Modern Apiary," and (B) the "Best Outfit for any one wishing to commence Bee-keeping."

Class A we consider a good departure from the old lines; but why the framers of the schedule excluded frame hives and extractors in Class B we, for very obvious reasons, fail to see. The judges apparently accorded with our own view by awarding the prize to a straw skep, the covering of which was convertible into a frame hive.

The honey classes were well filled, considering the bad season Northern bee-keepers have experienced, and some very fine produce was staged. Altogether the show was a marked success, and the lectures of Mr. Harbordt, accompanied by demonstrations of bee-management, aroused much interest among visitors. The lecturer was accommodated with a most excellent arrangement in the way of a large raised platform at one end of the capacious

shedding allotted to the bee department. Here the speaker could be well seen and heard by a great number of persons, while not the slightest annoyance was caused to the listeners by the flying bees.

The Rev. J. F. Buckler, Mr. R. A. H. Grimshaw, and Mr. W. Broughton Carr were the judges, and awarded the following prizes:—

Class A. Complete outfit for a modern apiary.—1st, R. Harbordt, Liverpool.

Class B. Complete outfit for a beginner in bee-keeping.—1st, P. Harbordt; 2nd, P. Harbordt.

Class C. Best and most complete frame hive.—1st, not awarded; 2nd, P. Harbordt.

Class D. Best frame hive at 10*s.* 6*d.*—1st, not awarded; 2nd, P. Harbordt.

Class E. Best observatory hive.—1st, P. Harbordt.

Class F. Best 12 1-lb sections 1892 honey.—1st and silver medal, Harry Wood, Lichfield; 2nd, W. G. Preece, jun., Shrewsbury; 3rd, T. R. Horton, Much Wenlock, Salop; Com., Capt. V. St. G. Ord, Bury St. Edmunds, and John Palmer, Ludlow, Salop.

Class G. 12 1-lb. jars 1892 honey.—1st and bronze medal, H. W. Seymour, Henley-on-Thames; 2nd, Thomas Badcock, Southfleet, Kent; 3rd, William Corkhill, Edge Hill, Liverpool; H. C., Capt. N. St. G. Ord; Com., Elihu Clowes, Newcastle, Staffordshire; Miss E. Cooper, Leicester; T. R. Horton; John Palmer.

Class H. 12 1-lb jars extracted honey collected in Lancashire.—1st, Owen Roberts, Rowton Grange, Chester; 2nd, George W. Carr, Alfred Terrace, Fleetwood; 3rd, A. D. Schofield, Oakfield, Alderley Edge; Com., Joseph Greenall, Lancaster.

Special certificate of merit for collection of dried specimens of bee-flowers.—W. Lees M'Clure, The Lathams, Prescot.

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on the 12th inst. Present: Mr. Read (in the chair), Rev. Canon Sadleir, Mr. Waldron, Mr. T. B. O'Bryen, Mr. Chenevix (Hon. Sec.), &c. The Secretary reported that lectures had been given lately at Kilkenny and Cork, and it was resolved to give further lectures, if possible, at the Nenagh Agricultural Show, on August 15th.

BUCKS AND DISTRICT B.K.A. ANNUAL SHOW.

The Bucks and District B.K.A. Show was held on July 26th. The number of exhibits was not large, but the quality of the honey shown was very good, the competition in the run-honey classes being very keen indeed. The judge was the Rev. E. Davenport, of Stourport. Appended is the prize list:—

Class 1 (members only). Twelve 1-lb. sections.—1st prize, E. J. Ridge, Thornborough; 2nd, T. Salmon; 3rd, Rev. J. B. Higham.

Class 2. Six 1-lb. sections.—1st, J. Sturdy, Thornton; 2nd, E. J. Ridge; 3rd, G. S. W. Stratford, Padbury.

Class 3. Best 12 lbs. extracted honey.—1st, J. Pollard, Tingewick; 2nd, E. J. Ridge; 3rd, G. Winterburn, Buckingham.

Class 4. Best 6 lbs. extracted honey.—1st, J. Pollard; 2nd, G. Winterburn; 3rd, E. J. Ridge.

Class 5. Best glass super.—Prize 10*s.*, J. Pollard.

Class 6 (open). Twelve 1-lb. sections.—1st, E. J. Ridge; 2nd, Rev. J. B. Higham.

Class 7. Best 12 lbs. extracted honey.—1st, G. Winterburn; 2nd, A. A. Walford, Buckingham.—*Communicated.*

BEE SHOW AT WESTERBY.

The Westerby Agricultural Society held a show on July 22nd, at which Mr. W. Dixon gave demonstrations in the bee-tent of the Yorkshire Bee-keepers' Association, which is hired by the Rev. J. W. Geldart, rector of Kirk Deighton, who also displays sufficient public spirit to give the special prizes, and these were taken as follows:—

Honey and Bee Appliances.—Special prizes given by the Rev. J. W. Geldart, rector of Kirk Deighton, for the best cottager's bar-frame hive (selling price not to exceed 10*s.*)—1st, T. Rothery, Tadcaster; 2nd, W. Dixon, Leeds. Show of bee-keeping implements (exclusive of hive)—W. Dixon, Leeds.

HONEY SHOW IN ARMAGH.

At the Armagh Show, held on the 20th and 21st July, the bee-keepers were well represented. Prizes were offered in eight classes, and for these there were forty-three entries. The Rev. H. W. Lett, Aghaderg Glebe, co. Down, discharged the duties of judge. The following is the prize list:—

Super of honey over 10 lbs.—1st, J. D. M'Nally; 2nd, W. G. W. Flynn.

Super of honey, 10 lbs. or under.—1st, J. D. M'Nally; 2nd, W. G. Flynn.

Twelve 1-lb. sections of honey.—1st, W. Jas. Anderson; 2nd, Robert Scott.

Sixteen 1-lb. sections.—1st, W. J. Anderson; 2nd, Wm. Smith Running.

Six 2-lb. jars of honey.—1st, John Tufft; 2nd, W. J. Anderson.

Six 1-lb. jars of honey.—1st, J. D. M'Nally; 2nd, W. J. Anderson.

Best exhibit in above classes, by same exhibitor, of not less than 112 lbs.—1st, J. D. M'Nally; 2nd, Mrs. T. G. Peel.

For the best cottage hive, price not to exceed 10*s.*—1st, Mrs. T. G. Peel.

For the best collection of hives and appliances.—1st, Mrs. T. G. Peel.

The tent in which the honey was displayed was, during the days of the show, a centre where many bee-men met and chatted over

points of interest, and renewed their acquaintance with each other. Among them, of course, was the reverend judge, who is one of the most enthusiastic bee-keepers in Ulster, the Rev. T. Kingsborough, and Messrs. J. D. M'Nally, J. Tufft, W. R. Orr, W. G. Flynn, &c.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-STINGS AND RHEUMATISM.

[1108.] Being a reader of the *B.B.J.*, I some time ago came across a few articles having reference to bee-stings as a cure for rheumatism. The subject had passed from my mind until just recently, when a particular friend of mine, who has suffered from this annoying complaint, was stating his case to me, and I at once remembered what I had read, and told him about it. His curiosity being aroused, he asked to see the letters, and after careful perusal of the same, he came to my apiary to try the effect of the remedy.

My friend is an ex-police sergeant, who has suffered acutely for years from rheumatism, and passed through the hands of several medical men, and spent seasons at various convalescent homes, undergoing various kinds of treatment, but all to no purpose. However, on Monday, the 11th of July last, he came to see me, suffering from severe pain in his right elbow and right ankle. With the help of my bees I gave him eight stings, three upon the elbow, and four upon the ankle. When he came he could not lift his arm, and it was with very great difficulty that he managed to walk, a distance of two miles, to my place; but twenty minutes after being stung, he could work his arm about as freely as if he had never had any rheumatism in his life, and he walked away like a two-year-old. On the following night he came down to have another application, and told me he had not had so good a night's rest for six months, as after the bee-stings his pain was gone, and his ankle was three inches less in circumference than it had been for two years previously. I gave him sixteen more stings, six on each ankle, and four on the elbow, with the result that he was quite free from pain until the 27th ult., when he felt a slight return of his old enemy, and came for a third dose. I gave him another twelve stings, six on each ankle, and when I saw him on the 30th, he treated me to a short hornpipe to show me the good he had received from his 'little friends,' as he called them. He is quite anxious for the case to be published, in order to ascertain if any case of permanent cure had been effected by bees. As for his own experience, he is quite willing to answer any questions with respect to it, and equally anxious to know if he may look upon it as a permanent cure, or only as a question of having ease for a time only; and if any of your numerous readers have had a similar experience, he would like them to state the particulars through your columns, and, in return, he will do what he can to satisfy them as to the genuineness of his own cure, so far as it has gone. I send my address for you to use as you may see fit.—PHILANDER JOWETT

NOTES BY THE WAY.

[1109.] The weather has been favourable during the last fortnight for our bees, and they have made the most of the opportunity to work on the limes. Each tree has been a centre of continuous humming, leading the uninitiated to believe there was a swarm of bees up the tree. The temperature has been low during the night and early morning, but the lime blossom gives forth its sweetness at a much lower temperature than most other flowers.

I glean from our local newspaper, the *Newbury News*, that the Berks County Council have voted our Berks Bee-keepers' Association the sum of 65*l.* This is an advance of 15*l.* on last year's vote, and speaks well for the efforts of our Association in disseminating a knowledge of the improved system of bee-keeping in the county, as such efforts must have met with the approval of the County Council for the Council to increase the grant this year. As the grant comes from the Council in July, the Berks Bee-keepers' Council, which met early last week, decided to hold over some 25*l.* of the grant till the spring of 1893, when it is proposed to make an expert's tour to all parts of the county, and during the present summer to send the bee-tent and expert to local flower shows, and give *free* manipulations and practical demonstrations in modern bee-keeping during the show.

Since penning the above, the *Reading Observer* has come to hand from a friend. The paper states that the grant to the Berks Bee-keepers' Association is 50*l.*, the same as last year. Time will prove which amount is correct, but I trust the *Newbury News* will prove the correct statement.

Sending bees by post is nothing new. I have sent them for several years by post, and have never till now known that there was or had been any restriction on that method of transmission, provided the bees were securely packed. If the reptile genus is allowed to be sent per

parcels or letter post, surely such harmless creatures as bees can also be sent by the same mails. "A Hallamshire Bee-keeper" (Mr. Hewitt) evidently wishes to pose as a benefactor to the bee-keeping fraternity, though unfortunately for him he comes in with a re-invention, *vide* the back volumes of *B. J.* on cheap hives, glass sections, the coming bee, and now postal concessions. Well, we must generously take the word or wish for the deed.

Foul Brood.—Thanks, Doctor Bartrum, for your interesting experience (1089). It shows conclusively that the malady is curable. Our district, so far as I know, is free from it, and I trust it always will be, but if naphthaline will act as a preventive, I shall advise any one who values exemption from much trouble, care, and constant watchfulness to use the precaution, and when packing up the hives for winter, or even when taking off the section or super cases, to drop in two or three pieces of naphthaline in each hive. Surely "prevention is better than cure;" or, failing that preventive, what of the antiseptic quilts mentioned by Mr. C. N. Abbott three weeks back? If we have, and know, means of keeping disease at a distance, it is a duty we owe to ourselves and also to our neighbours—in fact, to the community at large—to use those means.

Take a case in point. Our Editors probably have more handling and dissection of foul-broody matter than any other bee-keepers in the United Kingdom, yet the large takes of honey show pretty conclusively that the bees of our junior Editor, Mr. W. B. C., must be very healthy and vigorous. Now, why this exemption, when the bee-master is continually handling foul-broody matter, yet his bees are healthy? Why, friends, it is care on his or their part to use disinfectants after every case of handling foul brood. Now, if this constant care in the use of disinfectants—and one of the first is the use of phenolated soap, I believe—sterilises the germs of the disease and prevents any taints reaching his own bees, is it not a lesson to us, especially those of us who live in districts where the pestilence is known to prowl, seeking a lodgment for its spores or germs, to strike out a new method of warfare on the pest, and not sit complacently down in passive inaction, but use every means in our power to prevent infection? Science has discovered the cause and provided the cure, therefore let us unitedly resolve to apply the remedy.

(*The remainder of 'Mr. Woodley's "Notes" will appear next week*).

IN THE HUT.

"Linkèd sweetness long drawn out."
MILTON'S *L'Allegro.*

[1110.] The satirical reader may perhaps see an appositeness between this quotation and the rest of my remarks. I will make him a present of his witticism. My true reason for using Milton is that I never think of the exceeding minute stream of nectar capable of being taken up by the tongue of the honey-bee without thinking that it is the finest possible example of the poet's truism. Fancy a line of nectar so thin that 600 miles of it, were it collected together and evaporated, would about fill a one-pound section! So says Mr. Cheshire. Statistics are indeed wonderful things, *e.g.*, in the first number of the *Million* a lot of statistics were given anent this numerical—one, of which I noticed was that our honey-bee had to visit one million flowers for half a pound of honey (!).

I was asked to-day if bees in gathering nectar from clover did not lessen the quality and value of the crop. At first sight it would seem that the nectar, if left, would get rid of its water by evaporation, and that crystals of cane sugar would remain in the nectaries of the plant, thus adding to its weight. Well, then, if we weigh a head of unfertilised clover, we find it quite insignificant in spite of sugar crystals compared with the head filled with the fat, flesh-forming seeds of the plant bee-visited. The sugar carried away by the bee is simply a heat-producer to the cattle eating the fodder, and is obtained by the plant from the air at little expense to itself, whereas the fertilisation of the seed by the bees stimulates the plant to secrete sulphates and phosphates from the soil. Nitrogenous compounds are found stored up in plenty, adding immensely to the weight and quality of the forage, and ensuring the reproduction of the clover plant in a healthier, more vigorous strain. One has only to take a small gauze bag, and tie it over a head of blossom to protect it from insect visitation, and mark another bloom to be exposed (both before opening), in order to settle the question upon weighing, or getting the chemist to weigh them, when mature and ripe.

It is going to be a fine day, and, although the sky is lowering, I am agreeably surprised this morning to find—at this comparatively early hour, six a.m.—my bees have got the start of me; the lark has not arisen yet, for it is a dull morning, and has been raining in the night-time. There seems little doubt, to my mind, that the nectar, charged with minute doses of opium, gathered by them last night has produced the same effect upon them as the opium would produce on the human kind, *i.e.*, finely stimulating in small, and narcotic in large, doses. I have two beds of Shirley poppies in full bloom, and the way both the humble and the audacious hive bee "go on" over them is highly interesting; they simply rampage amongst the plentiful pollen, three humble-bees on one flower being a common occurrence. Our temperate bees take their gathering to the hive, getting somewhat sobered on the journey out and home, whereas their humble congener stays so long at the sign of "The Poppy Head" (I watched one do it last evening) that he is overcome and forced to make a night of it. However, he is gone this morning, let us hope, a sadder and a sober bee.

N.B.—Amateur gardener, get some seed of Shirley poppy in spring, mixed with fine sand, so may you sow it better broadcast; thin out, but do not transplant, and you will, I think, see the finest show of the most beautiful flower you ever saw. So says "X-Tractor."

Bees never do anything invariably. This has passed into a canon, we know, and, generally speaking, mine work most vigorously *against* the wind, but as I write they are certainly *with* it in force this morning.

The Hut sometimes delivers itself of a suggestion; this time it is in favour of borax as a remedy for foul brood. Soda-borate is not a new remedy, for I find it used equally with salicylic acid as a preventive and cure in the first recipe of the *Bee-keepers' Guide-book*. I only suggest that it be not lost sight of amongst naphthols, carbolic, and formic acid. A while ago my medical man almost despaired of ridding my system of influenza poison germs. I was out of sorts twelve months, when, by accident, I took a teaspoonful of borate of soda instead of carbonate of ditto, and, lo! was quite well next day, and have been so for months now. On finding its comparatively harmless character, I said, *Verb. sap.* to—X-Tractor.

QUEEN PASSING THROUGH EXCLUDER.

[1111.] On the 1st of July I took a queen from a hive of twenty standard frames, ten above and ten below excluder zinc. Two queen-cells were vacated by young queens in about a fortnight. On the 26th I looked in the bottom hive for the queen and brood, but found neither, and I extracted from seven frames above. To-day I renewed the search, with the same negative result, so put in a frame from another hive. Then, having a suspicion that the queen had gone aloft, and had been unable to get out for fertilisation, I looked into the top hive, and found four or five frames of brood, all of it worker brood. What a pleasant surprise! The queen was evidently doing her best with the empty combs, and a good best too, for she supersedes my choicest queen.—Samuel Jordan.

P.S.—Not a swarm from five hives this season; thanks to doubling the room early.

NOTES BY AN AMATEUR BEE-KEEPER AND CARPENTER.

[1112.] When Augustus Cæsar passed his Small Holdings Act, nearly two thousand years ago, giving allotments to his veteran soldiers, he appears to have ordered Virgil, the poet-laureate, to describe the pleasures of a country life, and demonstrate to those who had passed the best years of their lives in cities or in the tented field that true happiness would be found in the pursuit of agriculture, in the cultivation of vineyards, and in the production of honey: where the cuckoo, the lark, and the hum of a thousand bees would awake them, instead of the unwelcome *réveille;* where the battle din would be changed for the murmuring cascade, and where the only evidence that such a thing as war existed would be the rusty swords and empty helmets turned up by the ploughshare.

Those who are acquainted with Virgil's Georgics may well imagine the enthusiasm awakened in the minds of the soldiers as, grouped beneath the trees in the Roman suburbs, they listened to the poem read aloud, and how impatiently they longed for the time when each should sit under his own vine and fig-tree, and be surrounded by lowing kine and flocks of mingled sheep and goats. We may also imagine how some of the veterans bore testimony, as eye-witnesses, to the wonderful events narrated in the beautiful peroration to the first Georgic, and how, with the gesticulation and circumlocution peculiar to age, they made the blood of the rising generation curdle in describing how they had been terrified by ghosts and heard cattle discussing the *pros* and *cons* of the assassination of Julius Cæsar.

"Et simulacra modis pallentia miris,
Visa sub obscura noctis pecudesque locutæ."
Georgic I., l. 477–8.

Then, again, when the fourth Georgic, or Roman bee-keeper's manual, appeared, we may imagine what eager inquiries were made regarding stocks or swarms for sale. Whilst the blacksmith, who had been doing a roaring trade in converting spears into ploughshares and swords into pruning-hooks, gave a hearty *encore* to the lines beginning—

"Ac veluti lentis Cyclopes fulmina massis,"

his brawny arms involuntarily keeping time with the anvil rhythm—

"Gemit impositis incudibus Ætna."
Georgic IV., l. 170–3.

Such were the thoughts which arose when I was asked, a short time ago, to take the chair at a lecture on bee-keeping in our village school. In place of Virgil's poem we had magic-lantern slides explaining the management of hives and the production of honey, with the picture of an ideal apiarian home in Wales, which quite reminded us of Martin's illustration of heaven, and made us wish that we were the happy owners of such a terrestial paradise. Although the lecture, given under the direction of the Oxfordshire County Council, and, I suppose, in connexion with the Small Holdings Act, was a most excellent one, and listened to attentively by a numerous audience, I shall not attempt to follow it here, but content myself with giving a short account of my own experience during the past four years as an amateur bee-keeper.

(*To be concluded next week.*)

TAKING BEES FROM A CHURCH ROOF—UNITING.

[1113.] On Friday, July 15th, I succeeded in taking a large lot of bees from a church roof,

where they had been for thirty years. To my utter astonishment, there was next to no honey (about three pounds), but a splendid lot of brood, which I carefully cut out and fixed in my bar-frames. I found the queen after a long and careful search, and brought home the bees (about three miles). I measured the length of comb from one extreme to the other, and it was five feet, running upwards between two rafters. Had the comb been full, I should have had quite eight stone of honey; but, from what I saw and the description given by Mr. Cowan, I think it has been attacked by foul brood. When I arrived home on Friday evening, I had a stray swarm given me; and as it was too late to unite them, I waited till yesterday morning (the 18th), giving them a good dressing with peppermint syrup first; but they have fought *very much*, and to-day I have found one of the queens dead. Did I do wrong by uniting them?—GEORGE R. ALLEN.

[If the bees and combs came from a foul-broody colony, the best plan would have been to "burn the lot." On the other hand, if you are mistaken in suspecting disease, it was right enough to unite, but wrong to defer the operation for three days.—EDS.]

DERBYSHIRE NOTES.

STING PREVENTIVES.

[1114.] I have had the pleasure of reading your *Journal* for about twelve months now, and have never been better suited with a periodical. It is exceedingly well conducted, and the bee-keeping fraternity could not have their interests placed in better hands. This is the first time of my writing you, and I take the liberty of thus expressing what I feel every week when reading the *Journal*. "Praise is comely for the upright." May I give a few Derbyshire notes, as I notice that our county is a little backward in this respect in the pages of the *B. J.*? The honey harvest does not bid fair to be a large one, the weather has been so wretched. This week, however, the sun shines upon us once more, and our flagging spirits are revived if we see the bees out in large numbers. I have two hives, with about thirty pounds of honey in each above the brood nest, and we cannot expect much more than this to be gathered, as signs of the end of the honey season are already to hand, for the bees have begun to cast out the drones.

I have one hive full of bees that has not taken to the box of combs over the brood nest at all, they have remained downstairs, and only gathered from hand to mouth. Last week (21st ult.) I took out five frames full of bees and plenty of brood, with the queen, and put them in a new hive, and left the old hive to re-queen, leaving also plenty of bees and brood, also eggs. I suppose there is a chance for the young queen to get mated? As this hive had done nothing in the honey trade, I determined it should have a chance to try its fortune in the direction stated. A curious experience was mine the other week, when looking over this latter hive. I rubbed my hands with liquid ammonia, thinking to prevent stings, but I didn't: my hands were pierced about half-a-dozen times, but did not swell. A fierce tingling sensation went up my arms to my head, producing bleared eyes and swelled lips. The sensation took possession of my whole body, until I was in a state of frenzy. This feeling, however, began to subside when I had rested and drunk a bottle of soda-water, but it did not cease altogether until the tingling had gone down my legs and out at my toes, which actually it did about 11 o'clock the same night. The process took about five hours. Was this experience due to the over-free use of the liquid ammonia, or this and the stings combined? I have been stung several times since the case just stated, but have applied spirits of turpentine; twice I was stung over the eye, but with a few drops of turps rubbed in no effects of the stings were to be seen. One of our medical gentlemen resident here states that if the hands are rubbed on a swine's back previous to bee manipulations, no stinging will ensue; perhaps some good brother bee-keeper, who also keeps swine, will be practical enough to try this hint, and let us know results.

Wishing our editors all prosperity, and Mr. Huckle a speedy restoration to health,—L. HOUGHTON, *Alfreton, Derbyshire.*

[It is impossible to say what caused the unusual effect in this case; so much depends on the state of health in which the person stung is at the time.—EDS.]

Queries and Replies.

[617.] *Wax Fortifications.* — 1. Enclosed herewith is a queen, which I found lying outside a hive to-day at noon. At first, she seemed dead, but afterwards revived somewhat. Would you kindly look at her, and tell me whether you think she is a young one that had flown out to meet the drones, or is she older than that? From her size, I suspect she is older than a virgin would be. She seems to me to be larger than the average *black* queen. Has she not some Carniolan blood in her? 2. The enclosed piece of wax or propolis is, to me, a curiosity. I found it attached to the bottom of a frame, parallel to the *entrance* (first frame), which is sunk half an inch or more in the floor-board. Do you think the bees built it for a screen or curtain as a protection against the weather or possible intruders? Is it not principally of wax? The hive is in a warm corner, and faces south. The season here has been very intermittent, partaking of the nature of the better weather of the southern counties on the one hand, and the rougher weather of the northern counties on the other, as, I suppose, might have been expected from the widely different reports you give from those two quarters. Swarming has been but limited in this neighbourhood, and then late. I fear the skeppists will get but poor

returns of honey this season. Stocks in frame hives, that were strong *early*, and kept from swarming, will produce good results. 3. Adverting to page 117 of *Record* for August—under the signature "B. E. J. (Freckleton)"—it would be instructive to know the names of the books referred to as ample for *third-class* examination purposes.—W. WINTERTON, *Wellingborough.*

REPLY.—1. The queen is an old one, with Italian blood in her. 2. The curiosity you forward is a screen of wax and propolis, built by the bees, no doubt, to shelter themselves from the cold, and possibly from intruders also. We know that in countries infested with the death's-head moth and rose beetle, the bees habitually construct such fortifications, and leave just sufficiently large openings for single bees to pass through. 3. The books referred to are *Modern Bee-keeping*, Cowan's *Guide-book*, and the *Anatomy and Physiology of the Honey Bee.*

[618.] *Swarm clustering on Dummy-board.*—1. Kindly say where the simple cone clearer is to be had, and if applicable to any crate of sections. 2. I hived a swarm three weeks ago, and about a third of the bees will persist in clustering on dummy-board at back of frames. I have withdrawn it still further back four inches, only to find that more bees followed the dummy rearward and built a piece of comb on the quilt, besides eating holes through the latter. How can I get them to work on front combs, as they have plenty of room? I may add that I have smoked them off the dummy-board two or three times. 3. Does queen-excluder zinc tend to impede the passage of worker-bees in getting to section crate? The season down here has been very good on the whole, a friend of mine having taken ninety pounds of honey in sections.—FRANK BROWN, *Guildford.*

REPLY.—1. Any dealer will supply the cone clearer, and, as it is fitted to the ventilation-hole in roof, the bees only require a free passage-way to the exit. 2. There should be no space allowed between frames and the dummy-board in the rear; to withdraw the latter still further back if the swarm decided to cluster there was to decrease the chance of the bees taking possession of the fore part next the entrance. A swarm hived three weeks ago should have filled the hive with combs ere this. Write and say what condition the combs are in now, when we will try and advise you. 3. Excluder zinc should make no perceptible difference, all other conditions being favourable.

[619.] *Removing Supers with Brace Combs.*—1. I have three hives with supers on, the combs of which the bees have fastened to the excluder zinc underneath. How can I remove these with the least disturbance to the bees, and how prevent it in the future? 2. In one hive there is a queen in the super, and brood and honey in the frames. Will this honey be saleable if extracted, or should it be returned to the bees? 3. Will this queen be the queen of the old stock? I find the zinc fitted badly, and there may have been room for her to pass up the outside of it. 4. As I have not been able to find her, how had I better proceed?—INQUIRER, *Launceston.*

REPLY.—1. Raise the super just sufficiently to pass a fine wire below, and so sever all attachments. Then wedge the super up one-eighth of an inch high for an hour or so, in which time the bees will have cleaned up all honey dripping from the severed parts. Just before lifting up the super, puff in a little smoke at the junction between it and the hive. To prevent brace combs, allow no more than a bee-space (a quarter of an inch) between super and tops of frames. 2. There is no reason why it should not be saleable. 3. Yes. 4. Do nothing beyond removing the excluder zinc.

[620.] *Loss of Queen—Fertile Worker Laying.*—Enclosed bit of drone comb has been just cut from a neighbour's hive of ten frames (full of stores), in which there are few bees and no queen discoverable, and there have been no eggs discoverable for certainly four weeks. The hive is very clean and odourless, with no sign of foul brood; but I do not like the appearance of one of the unsealed grubs of yellowish tint. The colour may be due to light through the transparent cell. Another grub seems out of position. The sealed drone cells have been pressed, otherwise the capping is perfect, and was fully prominent in the hive, and looked heathly in appearance. Do you consider this specimen of drone brood all right? Do you think it has been started by a a fertile worker? This is positively *all* the brood that was in the hive. A large swarm issued five or six weeks since.—E. D. T., *Priory, Eynsford, Kent.*

REPLY.—The drone brood in comb sent is certainly not the offspring of a fertile queen, and the fact of the drone larvæ being all in absorbed worker cells goes far to prove there is a fertile worker in the hive. Comb is quite free from disease.

[621.] *Preventing Swarming—Super Foundation in Standard Frames.*—Having failed to prevent my bees from swarming this season, I have now put excluder zinc on entrance of hives to prevent the queen from going out. 1. Will it hurt the bees in any way? 2. Which is the best way to fasten super foundation to standard frames?—SWARM.

REPLY.—1. Covering the entrance with queen-excluder zinc will lead to all sorts of confusion and mischief. It should never be used in that way. 2. Thin super foundation may be fastened in frames by running melted wax along the junction of frame and foundation; or, if top bar has a split bar, put in a screw to make it grip close. Only narrow starters of thin foundation should be used in frames—not full sheets on any account; the latter being very apt to bag, if not break down altogether, in warm weather. None but brood foundation should be used in

frames for extracting, whether standard or shallow frames be used.

[622.] *Bees Deserting Observatory Hive.*—Finding a frame in one of my hives which had honey and brood, sealed and unsealed, and a well-developed queen-cell, I removed it one evening with the bees clustered on it, and put it in an observatory hive that I have fixed inside my stable window, with an entrance through the window. I placed a slanting board before the entrance, and covered the observatory hive well up for warmth. Next day nearly all the bees left except a small cluster of very young bees, and I returned the frame to the parent hive, as also the few bees that were flying to the observatory hive. 1. I was anxious to see a queen reared in an observatory hive, and I would like to know why I failed? 2. Is there any possibility of the brood having been chilled by not being fully covered by bees, seeing that the comb was well wrapped up?—T. Romer, *Aigburth, Liverpool.*

Reply.—1. It is a fact well known to bee-keepers that, under the circumstances named, every flying bee would return to the parent hive. The only chance of seeing a queen-cell hatch out in a unicomb observatory would be to fill it up with as many very young bees as could be crowded into it, and choosing very warm weather for the operation. 2. It is very probable that the unsealed brood would perish if deserted for a few hours, as wrapping up would not generate heat, but only help to retain such warmth as a cluster of bees will themselves generate.

[623.] *Honey and Carbolic Acid.*—I mixed some carbolic acid with some water, and with a paint-brush covered the inside of a few hives I had standing by with the mixture to disinfect them; ten days afterwards I put bees in them, and also two balls of naphthaline. I find upon extracting the honey it tastes of either one or both of these. If you can tell me of any means of ridding the honey of this flavour I shall be much obliged, as I am afraid it has spoiled the sale of this lot.—G. R.

Reply.—Nothing can be done to get rid of the smell or taste of carbolic acid. Naphthaline evaporates and leaves no trace behind, but carbolic, and especially if the crude article is used, does not lose its odour so readily. You should have well washed the hive and exposed it to the air for some time before putting bees into it.

WEATHER REPORTS.

Bucknall, Lincolnshire. BM. 25.

July, 1892.

Maximum .. 83° on 9th.	*Rain*:—3·26 in.
Minimum .. 29° on 14th.	Average of 6 years, 1·73 in.
Mean maximum .. 67·56°	Fall in 24 hs., 2·27in. on 28th.
Mean minimum .. 43·46°	
Mean temperature..55·12°	
Mean of 6 years ..56·41°	J. Bint.

Westbourne, Sussex.

July, 1892.

Rainfall, 3·52 in.	Sunshine, 223·3 hrs.
Heaviest fall, 1·03 in. on 16th.	Brightest day, 3rd, 14·5 hrs.
Rain fell on 11 days.	Sunless days, 2.
Above average, ·97.	Above average, 28·5 hrs.
Max. temp., 72° on 28th.	Mean max. temp., 64·7°.
Min. temp., 41° on 1st.	Mean min., 49·7°.
Min. on grass, —	Mean temp., 57·5°.
	Max. barometer, 30·57 on 24th.
Frosty nights, 0.	Min. barometer, 29·67 on 13th.

The honey has been of excellent quality, but limited in quantity.—L. B. Birkett.

Bagnalstown, Ireland.

July, 1892.

Total rainfall	2·31 in.
Average „	·077 „
Number of days on which rain fell	13
Maximum temperature, 7th	82°
Minimum „ 15th	41°
Max. ground „ 1st & 25th ..	50°
Min. „ „ 13th & 22nd ..	30°
Nights on which temperature was below 32°	6
Mean max. temperature	66·95°
Mean min. „	49·43°

John Henderson.

NORTHANTS B.K.A.

The Annual Show of this Association was held in Delapre Park on August 1st and 2nd, in connexion with the Northants Horticultural Society. There was a good show of honey of first-rate quality as well as some of a slightly inferior character, the result of admixture of lime honey with that obtained from white clover. The number of entries was not so large as might have been anticipated at the close of so good a season. Mr. J. R. Truss, in charge of the bee-tent, attracted large audiences, as usual.

Judges:—Rev. R. A. White, Northampton; Mr. J. Shaw, Moulton Park; Mr. J. R. Truss, Ufford Heath.

Prize List.

Honey.

Class 1. Section Honey.—1st prize, J. Adams; 2nd, T. Salmon; 3rd, F. O. Adams; 4th, H. Ringrose.

Class 2. Extracted Honey.—1st, S. Lowick; 2nd, J. Adams; 3rd, G. Smith; 4th, W. Cockerill.

Class 3. Best exhibit of super honey.—1st, J. Adams; 2nd, F. O. Adams.

Class 4. For the best beeswax.—1st, J. Adams.

Class 5. Best six sections (open only to those not previously prize-winners).—1st, H. Goldby; 2nd, W. Cockerill.

Best six 1-lb. bottles extracted honey.—1st and 2nd (equal), W. Cockerill and S. Holland; 3rd, H. Goldby.

Best glass or wood super of comb honey.—3rd, Master F. C. Ball.—*Communicated.*

AN AMERICAN EDITOR'S EXPERIENCE OF (SO-CALLED) PUNIC BEES.

Mr. Ernest Root, one of the Editors of *Gleanings*, gives his experience of the so-called Punic bees in the issue of his journal for July 15th, as follows:—

"Our Punics are doing no better in honey—indeed, we doubt whether they are doing as well—as the average colony of Italians of equal strength; and, with the exception of the Cyprians, they are the *meanest* bees we ever brought into the apiary. July 4th we wanted to show 'A. I. R.' the new race. He at once suggested that we open the hive without smoke, which we did, perhaps a little unceremoniously. The air was immediately filled with hundreds of mad bees; and so persistent were they that *we* gladly ran for a veil and smoker, although 'A. I. R.,' true to his aversion for bee-veils, crouched down under a sheltering grape-vine, with his hands up to his face. We then smoked the bees, but they boiled all over, about as bad as black bees; and, like black bees, they would hold themselves suspended on the wing, perfectly motionless, apparently, with the exception of the wings, right before the eyes, in a tantalising way. By the way, we would prefer to be stung, and done with it, than to be held in constant fear of it. The next day one of our boys attempted to run a lawn-mower some few rods away from the Punic colony; but he was very glad to put on a veil, and even then the little scamps pestered his hands. When Mr. Langstroth was here, and shortly after, we took every precaution to keep the bees quiet, or, at least, not to arouse them unnecessarily, for we did not wish to test the temper of a new race of bees in the presence of one whom, at his advanced age, stings might be next thing to serious. The bees were also younger when he was here, and, of course, gentler. Now that they are two or three weeks older, they are regular little demons, unless handled carefully. We should state this, however, that they delight more in bluster and angry buzzing than in actual stings.

"In our last issue we stated that they were the worst bees for depositing propolis that we ever saw. For example, we have a crate of sections on their hive; and even before there was an ounce of honey put in them (there is not more than a few ounces now in the whole crate) these Punics besmeared the sections all around the edges in six days in a way that is worse than any hybrids ever thought of doing in six months. If our Punics are a fair sample, we do not see how any one can regard them as gentle; and more and more they are beginning to show the regular characteristics of the common black bee."

It would be a novel experience for a veteran bee-keeper like Mr. A. I. Root to be compelled to take refuge under a grape-vine from the stings of bees! For ourselves we have now the satisfaction of knowing that we are not the only editor who has had to seek refuge from the attack of North African bees.

FOUNDATION AND FOUL BROOD.

Mr. Allen Pringle, president of the Ontario Bee-keepers' Association, writes us as follows:—

Sirs,—In the *B. B. J.* of September 10th, 1891, a correspondent asks (766, p. 406): "Has this question been ever definitely answered: Does the melting temperature of wax, or what other temperature, with certainty destroy the microbes or bacilli of foul brood?"

In your issue of December 3rd, 1891, the Editors say, in a footnote to a letter from Mr. Corneil (863, p. 550): "We do not see that it would be impossible to test the matter" (that is as to whether foundation made from contaminated comb contains living spores of *Bacillus alvei*), "as a bacteriologist ought to be able to separate the spores from foundation; and if they are still alive, he should have no difficulty in cultivating them. . . . There are solvents of wax that have no effect on the vitality of spores. We hope that Mr. Corneil's surmise of sheets of foundation containing millions of live spores will not prove to be correct, and we hope that the matter will be tested."

This subject was discussed at the annual meeting of the Ontario Bee-keepers' Association, in January, 1891, and was deemed of sufficient importance to warrant action by the Society to have the above point determined and settled, if possible. The writer, as President of the Society, was accordingly instructed by the meeting to communicate with certain scientists in Canada, occupying official positions, to induce them, if possible, to undertake the necessary experiments to determine whether the degree of heat required to melt wax was sufficient to destroy the vitality of the spores of *Bacillus alvei*, and, if not, what degree of heat is necessary to destroy them.

Professor Ramsey Wright, who occupies the Chair of Biology in the University of Toronto, has consented to make the experiments and settle this important question on behalf of the Ontario Bee-keepers' Association. Professor Wright commences the experiments this spring as soon as we are able to supply him with the necessary foul-brood material, &c.; and I shall be pleased to communicate the results to the *B. B. J.* in due course.

In the article quoted from above (*B. B. J.*, September 10th, 766, p. 406), the writer, "W.," makes a statement strongly confirmatory of our Canadian system of treating foul brood. He says: "I have had a long and melancholy experience with this pest, and in my case mere feeding with disinfectants (salicylic acid, phenol, formic acid, or Naphthol Beta) has proved useless. But, early in my troubles, I found that swarms from infected stocks, if put on sheets of foundation in fresh hives, remained comparatively free from all trace of infection, especially if the new hive was, as far as practicable, saturated with some disinfectant." To the foregoing I wish to call the special attention of those correspondents of the *Journal* who some months ago felt called upon to manifest such impatience, if not discourtesy, because I felt it my duty to press somewhat strongly upon British bee-keepers who were afflicted with that pest, foul brood, in their apiaries the wisdom and propriety of trying our method of cure, and the folly of refusing to try it simply because it was in conflict with certain of their preconceived theories or opinions on the subject. Besides the home evidence quoted above, I also saw in the *Journal* since that time another strong case in evidence for our method of treatment, but I cannot now turn it up to give particulars. Let the reader note the two prominent facts in "W.'s" experience, which, he says, was "long and melancholy." The first fact was that the drugs "proved useless," and the second fact was that, early in his troubles, he "found that swarms from infected stocks, if put on sheets of foundation in fresh hives, remained comparatively free from all trace of infection, especially if the new hive was as far as practicable saturated with some disinfectant."

Now, what do these facts mean? They mean a great deal; and over here they have been multiplied indefinitely. If the queen is diseased, and the workers are diseased with the germs of foul brood, communicable by them, how is the mere putting of the diseased queen and bees on "foundation" going to prevent the disease breaking out as soon as they begin to rear brood in the new comb? On this hypothesis, the fact given by "W.," and the thousand we have to add to it, are inexplicable. On the other theory, that the honey is the chief medium of communicating the disease, the thousand and one facts are explicable and intelligible.

The treatment practised with such success in this province, by the official Foul-brood Inspectors and others who have occasion to treat the disease, is predicated on the theory, whether right or wrong, that it is chiefly through the medium of the honey that the disease in spread. We do not say that queens and workers may not be constitutionally diseased or tainted with the germs. We do not impeach the scientist or discredit the microscope. We simply say that, so far as we know—so far as we are cognisant of the facts—neither queens nor workers communicate the disease; while we do know, and have verified in thousands of cases, that through the medium of the honey the disease is communicated and spread. And while we do not assert that the disease has never been cured by medicating the bees, we do assert that it has been cured thousands of times without drug medication of any kind, and without medicating the bees in any way save to relieve them of the contaminated honey their sacs may contain.

Why were "W.'s" infected swarms from diseased colonies cured by merely putting them into clean hives on comb foundation? Simply because they used up the whole of the infected honey they carried with them in making wax and drawing out the foundation, instead of giving it to young brood. If "W." or anybody else wishes to prove this to his own satisfaction, let him take the infected swarm from a diseased colony and, instead of putting it on foundation, put it on empty combs, which he knows to be perfectly clean and free from the foul-brood taint, and then note the result. The honey carried away by the swarm, instead of being used up in building comb, will be stored in the empty comb and used in rearing the brood, which will prove to be diseased. Considering the importance of the issue, the trouble of such a test is trifling, and I would ask the opponents of the plan of cure we are advocating (and which we know to be efficacious) to put the matter to a practical test, and do it fairly.

And since "W." has gone so far, and been successful in curing his new swarms, he can go fuather, and cure the old diseased stocks. Should he unfortunately have occasion to to deal with the pest the present season, I would urge him to prove this matter for himself, and report results, which I venture to predict will be exceedingly gratifying to him.—ALLEN PRINGLE, *Selby, Ontario.*

Bee Shows to Come.

August 11th.—Goole and District B.K.A. Honey Show in connexion with the Horticultural Society, Victoria Pleasure Grounds Goole.

August 17th.—Wilts B.K.A. Annual County Show at Swindon. For schedules apply to W. E. Burkitt, Hon. Sec., Buttermere Rectory, Hungerford.

August 17th.—Wotton-under-Edge District Bee-keepers' Association. Secretary, G. Gunston, Bradey Green, Wotton-under-Edge.

August 17th and 18th.—Shropshire B.K.A. Annual show of bees, honey, and appliances at Shrewsbury. 35*l.* in prizes. For schedules apply T. Whittingham, 27 Benyon Street, Shrewsbury.

August 18th to 20th.—North of Scotland Bee Society. Annual Show at the Central Park, Kittybrewster, Aberdeen. Entries close August

15th. For schedules, apply A. M. Byers, 18 Union Terrace, Aberdeen.

August 20th.—Honey show in connexion with National Co-operative Festival at Crystal Palace. Liberal prizes. For schedules apply to the Secretary, A. O. Greening, 3 Agar Street, Strand, W.C.

August 23rd and 24th.—Staffordshire B.K.A. Annual show at Stafford. Liberal prizes for bees, hives, and honey. Entries closed.

August 30th and 31st.—South of Scotland Horticultural Society's Show at Dundee. Classes for honey. Entries close August 22nd. For schedules apply to the Secretary, Mr. John Blacklock, Solicitor, Dumfries.

August 31st and Sept. 1st.—At Birkenhead, Lancashire and Cheshire B.K.A., in connexion with the Wirral Agricultural Society. Liberal prizes for honey and appliances. For schedules apply to A. H. Edwardson, Secretary, 28 Hamilton Street, Birkenhead. Entries close August 13th.

Sept. 1st.—Castle Douglas. Extra liberal prizes for honey. Open to all (see special advertisement on another page.) For schedules apply to Wm. Blackwood, Castle Douglas, N.B.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Also, in connexion with the Notts B. K. A., at Thorneywood Chase, August 11th.

Sept. 7th and 8th.—Derbyshire B. K. A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A Lover of Bees.—*Late Queen-rearing.*—We do not think the method of treating the disease to which you refer ended in any satisfactory result. It is too late now to start queen-rearing, as drones are being rapidly killed off. If healthy driven bees with young queens can be had for uniting after removal of old queens, it should succeed well.

Thos. Norman (Ipswich).—1. It would be far more reasonable to decline taking a journey by railway because accidents happen thereon than to refuse to keep bees because of an occasional mishap through stings. Besides, the eyes can always be protected by wearing a veil. 2. We have never heard of any one losing the sight of an eye through a bee-sting.

Drone (Lawrencekirk). — *Queens Killed.*—You do not say if either of the alien queens did any breeding before disappearing. We take it, therefore, that the queen-introduction failed in each case. This being so, and only a few bees with a fertile worker left in the hive, the stock is entirely worthless for uniting to a cast.

H. Rees (Monmouth).—If the honey is as good as you say there should not be any difficulty in disposing of it at the price named. Send us on a small sample, and we will write you our view of its quality and value.

T. J.—*Treating Foul-broody Stocks.*—In dealing with the eight stocks affected with foul brood much depends on the virulence or otherwise of the attack. You should not, however, trust to naphthaline alone for curing, as it is only intended as a preventive of the spread of disease. Naphthol Beta given in the food must be administered, and all diseased brood combs removed and healthy combs substituted, before any cure can be hoped for.

Richard Taylor.—Your bees are most probably suffering from want of proper ventilation. One of those sent was rather swollen, but the others were quite healthy. Give more ventilation, and if the trouble does not disappear try salt water given in feeder, or salicylic acid in food. We had a similar case once, and the hive became quite healthy again, but we have known many instances where colonies do not get over it. The complaint is not infectious. Could you send us a few swollen bees to examine more carefully under the microscope?

B. J. Guillemand (Southsea).—The honey sent may be from beans, but it is, we think, largely mixed with aphidean honey. The latter so overpowers the flavour and aroma of most honeys as to render them almost unrecognisable.

*** *Notwithstanding that we print four extra pages this week, we are compelled to hold over several articles, report of shows, &c., till our next.*

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 530. Vol. XX. N.S. 138.] AUGUST 18, 1892. [*Published Weekly.*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—The last few days of the unusually prolonged clover season only now ended did not fulfil the anticipation expressed in our last "Hints," nor add much to the weight of surplus chambers, cold winds having checked the secretion of nectar very considerably in what was a remarkably fine show of second-crop clover. It is questionable, therefore, if the present sunshine and real summer warmth will afford much satisfaction to bee-keepers, seeing that it has come too late to be of service in the way of increasing the year's honey yield. To have so fine an autumn as seems likely will, no doubt, raise the hopes of those who have bees at the moors, but for the rest the season is practically over, and all surplus chambers should be removed forthwith, ere their contents are carried down into the brood department below.

REMOVING SURPLUS CHAMBERS.—Those who have secured a fairly good harvest in sections and combs for extracting will in many cases this season, after the removal of surplus boxes, find that brood chambers are very sparingly provided with stores, and that, consequently, a generous supply of syrup will be required to make up, in some measure, for what the bees have been deprived of. There is no just reason why this should be complained of, since the bee-keeper has appropriated all the surplus honey gathered; but, beyond this, the fact of having to feed liberally yields to the latter the important advantage—in districts where foul brood is known to be prevalent—of wintering his bees entirely on medicated food, and in this way tending to minimise the mischief frequently arising from food being carried into the hives which has been pilfered from diseased colonies in the immediate neighbourhood.

While on the subject of foul brood, we are reminded of an allusion of a personal character, made by Mr. William Woodley in his "Notes" last week, wherein he says: "Our Editors probably have more handling and dissection of foul-broody matter than any other bee-keepers in the kingdom." We think he might have safely said any fifty bee-keepers. Moreover, our own bees are located in a district where foul brood has existed for some years, and where in the past it has played sad havoc among the stocks around us. Now, if bees can be kept in healthy condition under such circumstances, surely it goes far to prove that constant care and the use of disinfectants are helpful to those who will help themselves in dealing with the pest.

We have just now had the inquiry from a correspondent:—

"How would you deal with a rather bad case of foul brood, just discovered in an old stock, which has this year swarmed twice, and has besides given some surplus? I found it out on removing the crate of sections to-day. Four or five of the combs have more or less foul-broody matter in them, and, though the young queen is evidently laying, I do not think that much of her brood is hatching out, or the stock would be stronger in bees. I may say my other four hives are quite healthy."

In a case like the above, we should promptly sulphur the bees and burn them, along with the combs and frames, thus removing all risk from that particular lot for ever. The hive should then be thoroughly disinfected and laid aside till next year. If our correspondent asks, "Why we should not attempt curative measures?" our reply is, "Preventing the risk of infecting the contiguous healthy colonies at this season is infinitely better than attempting to cure the stock referred to," and we trust that this advice will be taken as of general application under such circumstances as are detailed above.

Autumn Robbing.—The time is now at hand for beginning to take precautions against "robbing," because the predatory instincts of bees are usually aroused when honey fails. Extra care at this time is, therefore, needed to save trouble later on when feeding becomes general. Weak stocks, when being fed, are especially liable to attack, if, by any carelessness on the part of the bee-keeper, strange bees get access to the feeder, either from inside or out. As a rule, we begin to reduce the width of entrances immediately on completing the final removal of surplus chambers, when, after a glance at the combs in the body, to make sure that queen and brood are all right, we begin feeding slowly for about a fortnight, then set on the rapid feeder till each colony has its full complement of stores. In feeding rapidly we give the food warm, and in the evening, allowing no syrup to be accessible from the outside and spilling none on the ground. In fact, the greatest watchfulness should be exercised in keeping the bees quiet and orderly, bearing in mind that not only is mischief done at the home apiary when the robbing instinct gets uppermost, but the bees prowl about neighbouring hives, plundering and bringing home sometimes the seeds of disease in the stolen food. Hence it is we urge these precautions against the beginning of robbing, which, once begun, it is not easy to stop.

Clearing Supers.—It not seldom happens that careless or inexperienced bee-keepers will cause bees to start robbing when clearing supers at the close of the season; especially is this the case with cone clearers fixed to hive roofs. If a super of honey is exposed below or under the roof of a hive, prowling bees soon scent it out, and if an ill-fitting roof will afford access to these prowlers, not only is the honey carried off, but the bees become generally demoralised for some hours afterwards, and it takes time to get them quieted down again. Therefore, let no super be left for clearing of its bees without being quite sure that it is safe from *outsiders*. If this kind of work is done in the early morning, with the help of a well-fitting roof and a free passage to the exit cone, robbing will be avoided, but if the robbing mischief does get started we should use the type of clearer which allows the bees to descend from the surplus chamber into the body-box below without escaping to the outside.

YORKSHIRE AGRICULTURAL SOCIETY.

This old and important Society held its fifty-fifth annual meeting at Middlesborough on the 3rd, 4th, and 5th inst. The weather was all that could be expected, and the attendance quite up to the average. Considering that it was held quite on the verge of the county, we were surprised to see so many people, especially when we consider the disastrous effect of the recent great coal strike upon the finances of trade.

So far as bee-keeping and its appliances were concerned, the show in this department would have been meagre in the extreme but for the exhibits of members of the Yorkshire Bee-keepers' Association, the displays of Mr. W. Dixon (Leeds) and Mr. A. C. Jemeison (York) being the backbone of the show, and it is gratifying to note that they were rewarded for their enterprise by taking away the bulk of the prizes.

What has hitherto been a most important feature was absent, viz., the bee-tent of the Y.B.K.A., which is the annual rendezvous of crowds of interested spectators of the demonstrations and lectures on bee-management. Many were the inquiries on the subject, and great the disappointment of the public desirous of being instructed in apiculture. The reason of this shortcoming was the lateness of the invitation given to the County Secretary (Mr. Grimshaw), to undertake the lecturing; we are informed he had other engagements, but we trust to see it remedied another year. The Rev. J. L. Seager, Stevenage, officiated as judge, and made the following awards:—

Most complete frame hive.—1st prize, W. Dixon, Beckett Street, Leeds; 2nd, A. C. Jemeison, Colliergate, York.

Most complete frame hive, price not to exceed 10*s*.—1st, W. Dixon; 2nd, A. C. Jemeison.

Honey extractor for bar-frames.—1st, W. Dixon; 2nd, A. C. Jemeison.

Honey extractor for sections.—1st, W. Dixon; 2nd, T. Louth, Riseholme, Lincoln.

Exhibit of bee-furniture.—In this class the restriction "All exhibits must have been made in the manufactory of the exhibitor" should, we think, be at once expunged. Both the entries in this class were excellent, and the judge awarded them of equal merit.

W. Dixon and A. C. Jemeison, equal.

Exhibits of novelties or useful inventions.—1st, A. C. Jemeison (for a Canadian feeder); 2nd, W. Dixon (for honey-parkin).

Observatory hive.—There was only one entry in this class, but it was an excellent article.

1st, W. Dixon.

In the honey classes there were forty-eight entries, but none of them call for any comment, with the exception of those shown by the Rev. R. M. Lamb, Burton Pidsea, which, for clearness and excellent "get up," could not well be surpassed.

Honey in sections (1892), 15 lbs. to 18 lbs.—1st, Rev. R. M. Lamb; 2nd, W. Dixon.

Honey in sections, 9 lbs. to 12 lbs.—1st, Rev. R. M. Lamb; 2nd, Miss E. Cooper, Leicester.

Six 1-lb. sections of last year's heather honey.—1st, Mrs. Kirk, Stillington, Easingwold, York; 2nd, R. M. Lamb.

Nine to twelve pounds extracted honey (1892).—1st, R. M. Lamb; 2nd, Miss E. Cooper.

Up to 8 lbs. granulated honey.—1st, T. Pickering, Cropton, Pickering; 2nd, Capt. W. St. G. Ord, Bury St. Edmunds.

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

On Monday, August 1st, the Boultham and Bracebridge Horticultural Society held their annual show in Boultham Park, Lincoln, by permission of Colonel R. G. Ellison, and this year there was added to the other attractions a Bee and Honey Show, in connexion with the Lincolnshire B.K.A. £4. 4*s.* was offered in prizes, and the schedule comprised five classes. Considering that this was the first time honey has been included in this show, the entries were fairly numerous, there being exhibited four observatory hives, which were a great attraction. The honey staged was of excellent quality and the sections presented a very neat appearance. In the bee-tent of the Lincolnshire B.K.A. a well-attended lecture was given, with the usual manipulation, by Mr. F. J. Cribb, of Gainsborough, who also acted as judge of the honey, &c., and the prizes were awarded as follows:—

Best observatory hive.—1st prize, Mr. R. Godson, Tothill; 2nd, Dr. Russell, Lincoln.

Best twelve 1-lb. sections.—1st, Mr. Louth, Riseholme, Lincoln; 2nd, Lord St. Vincent, Norton Disney; 3rd, Mr. R. Godson.

Best twelve 1-lb. jars extracted honey.—1st, Mrs. Taylor, Bracebridge; 2nd, Mr. Louth; 3rd, Mr. G. Taylor, Bracebridge; 4th, Mr. R. Godson.

Best sample beeswax.—1st, Lord St. Vincent; 2nd, Mr. Emerson, Lincoln; 3rd, Mrs. Emerson.

Cottagers Only.

Best glass super.—1st, Mr. W. H. Spengler; 2nd, Mr. G. Taylor.

BERWICKSHIRE BEE-KEEPERS' ASSOCIATION.

The Annual Show was held at Duns in conjunction with the Berwickshire Agricultural Society's Show on August 3rd. There was a very fair display of honey. The judges were Mr. Clark and Sir T. Gibson Carmichael. The prizes were awarded as follows:—Six 1-lb. sections.—1st, J. Turnbull; 2nd, G. Moffat. Six 2-lb. sections.—1st, D. Cassells. Six 1-lb. jars of extracted honey.—1st, G. Moffat; 2nd, J. Turnbull. Best super, any size.—1st, J. Laing. Best octagon super.—1st, J. Johnston; 2nd, D. Cassells. Largest harvest of honey from one hive.—J. Turnbull. Best 20 lbs. section honey.—1st, J. Turnbull. Best two 2-lb. sections, two 1-lb. sections, and two 1-lb. jars.—1st, D. Cassells; 2nd, H. Fraser; 3rd, R. Greig. Best cake of beeswax.—1st, J. Turnbull; 2nd, T. Thomson. Hive for cottagers' use.—Certificate, Mr. Flint, Sinclair Hill.

Two silver medals given by Lady Gibson Carmichael for the exhibits which seemed to the judge most meritorious, were given to D. Cassells for exhibit of 2-lb. sections, and to J. Turnbull for his exhibit of surplus honey taken from one hive.

The display of 1-lb. sections was very good. Of the two exhibits which won prizes in this class, the second would have been probably placed first had the sections been got up in a better form for market.

Sir T. Carmichael, after the judging was over, in a few remarks dwelt on the importance of getting up honey, especially in sections, in as attractive a manner as possible.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE REV. L. L. LANGSTROTH ON SO-CALLED PUNIC BEES.

[1115.] I have been absent from Dayton a short time, and on my return find with great pleasure the *British Bee Journal*. I received your book on the honey-bee, and have read it with much satisfaction. I ought, after my recovery, to have acknowledged your courtesy sooner, but I have been overwhelmed with correspondence, and for the last four weeks have had a partial relapse of my last winter's illness.

I think you have done a great service to bee-keepers in investigating so thoroughly the matter of the so-called "Punic bee." From what I saw of the single colony of these bees in Mr. Root's apiary, I was strongly impressed with the idea that, while closely resembling the ordinary black bee, they still showed some characteristics different from that variety, and I expressed the opinion that a cross between them and some of the yellow varieties might possibly give us a better bee than we now have.

You have, of course, noticed what Mr. Ernest Root found out about them later, and his experience with them corroborates very strongly your opinion derived from personal examination in their native *habitat*. I fully agree with you

that we can expect no advantage from using the Tunisian bee.

I will give you some interesting facts, noted in my own apiary before the importation of Egyptian bees into Europe by Vogel. I found a colony of Italians, some of the workers of which had the shield or crescent peculiar to some of the yellow races, and called my son's special attention to their peculiar marking. After my importation of the Egyptian race I saw that this yellow crescent on the thorax belonged to that type of bees, which only the more confirmed my opinion that the so-called Italian race had originated from the crossing of different varieties, and was not even then an absolntely fixed type.

I think, my dear sir, that you have done a great service to bee-keepers in Europe and America by exposing the false representation which has been made about this African bee.

You may have noticed in our bee journals that the United States Government will probably make an attempt to import *Apis dorsata*. It seems to me that a successful cross may possibly be obtained between this and the Italian variety, especially as the drones of *Apis dorsata* are said to be nearly of the same size as Italian drones. Many years ago I made a suggestion that through our missionary stations we might easily obtain specimens of worker-bees of all the varieties of domesticated honey-bees; but the suggestion was never acted upon. Speaking of *Apis dorsata* reminds me always of our mutual friend, the lamented Woodbury. When informed that I purposed making an effort, to secure this Giant bee, he informed me of his own plans for introducing it from Ceylon to British bee-keepers; he also very generously offered, if I still desired to carry out my intentions, to furnish me with cards to be put upon my boxes, by which I might have all the special facilities proffered to him by the steamship companies. Finding, however, that he had the priority, I, of course, declined to do anything further in the matter.

Allow me, in closing, to say it has always been a matter of deep regret to me that when you visited our country my health was such that I could hold converse with no one on any topic relating to bees.—I remain, my dear Mr. Cowan, very sincerely your friend, L. L. Langstroth, *Dayton, Ohio, July 28th*, 1892.

NOTES BY THE WAY.

(*Concluded from page* 305).

[1116.] I notice in *Gleanings* a lady bee-keeper advocates the use of a strong "lye" for cleaning the propolis off tin dividers; this leaves the dividers as bright and clean as when new.

Users of Abbott's patent frames should put the "key-piece" into the groove intended eventually for the foundation when the frames are made up, only forcing the key about half-way in; this keeps the groove open ready to receive it in due time, whereas, when the key is put into its own groove, the groove for foundation becomes nearly closed. This is especially the case with frames that have been in use and the combs cut out. This hint is worth remembering.

Those bee-escapes—or as we term them super-clearers—are gaining favour amongst American bee-keepers as a saving of labour. Mr. Brown, of Huntingdon, Florida, U.S., says, "With twenty Porter bee-escapes one day last week I took 1000 pounds of honey with forty-five minutes' labour; fifteen minutes in putting on the escapes in the evening and thirty taking off the supers in the morning. Could one man remove the same amount of honey by any other method in the same time?" Then he adds those twenty colonies gathered eight to ten pounds each the day the honey was removed. Would they have done this if the old method of shaking and brushing had been followed? One hive on scales gathered ten pounds per day and his best colony 17½ pounds in nine hours; then he says, "How's that? Will the man who says 'orange-trees" do not yield honey please walk up?" This flow of honey was over by the 12th of April, 1892.

Observatory Hives at Warwick. — I know a case where the restrictions kept one would-be exhibitor from entering, as his observatory hive held only two frames. The point could easily be carried if provision could be made for an exit so that the bees could get a flight. I cannot see any reason why observatory hives of any make from the unicomb to the glass box holding ten frames should not compete if a flight-hole is made for the bees to reach the open air. A word of caution to exhibitors at honey shows—always start your exhibits *several* days before the show. I entered for the Royal Manchester, Liverpool, and North Lancashire Show at Liverpool, July 28th to August 1st, started my exhibits on Monday (25th), to reach Liverpool by 9.30 a.m. Thursday. Friday night I received a letter from Mr. H. H. Lindon stating my exhibits had just arrived—6.30 p.m.—nine hours late, and of course out of the competition. This was only a distance of some 200 miles, and sixty-eight hours for the case of honey to reach its destination. Yet I shall get no redress from our railway company, as they will say your losses were prospective, as they did with several exhibits I sent to Stirling Show last year, which were delayed till the third day of the show—a loss of some 4*l.* to 4*l.* 10*s.* to me then, and I quite expected to take first prize in both classes this year at Liverpool, as both exhibits were first-class quality; therefore I say again, start your honey for shows in good time.

I was at a gentleman's house last week to attend to his bees, and his first query was, "How was it the expert did not call on me this spring?" I could only answer apologising for the Association, and admit how difficult it was to get good men who would take up the work and make it a success, and that only a part of the expert tour was completed this year, although the county was cut up into four

provinces, and four experts appointed, one to each province. In the eastern part of the county the work has been sadly neglected by the expert, appointments made per post-card, and then their fulfilment not carried out. This is calculated to estrange friends and patrons of the Association and disgust members. If an expert cannot fulfill his engagement, notice of such failure should be sent in time to reach the member or bee-keeper at least by the time of the appointment. In North Berks the ground was well covered except a small district. In South-West Berks nothing was done; the expert having other (probably more lucrative) work come in at the time appointed for the spring tour, he perforce sacrificed the bee-work. In the central province part of the work was done, and in this case more would have been done if better weather had prevailed, and notice of the work required had been given previously, so that other private work could have been pushed forward.

I heard yesterday of a swarm of bees which have located themselves, and built a quantity of comb, in a quickset hedge, and I told my informant, an old bee-keeper, if he would get permission from the owner, I would undertake to clear them out, the bee-keeper to have the honey and I would take the bees. If it should come off, I will post my—not our—experiences. —W. Woodley, *World's End, Newbury*.

BERKS BEE-KEEPERS' ASSOCIATION.

[1117.] As will be seen in your advertising columns, the Berks Bee-keepers' Association will make what they consider a new departure at their show to be held at Reading on September 14th. Kindly permit me to encroach on your valuable space to explain their reason for doing so. It has been their past experience, as it has probably been that of many other show committees, that the honey exhibits are confined to a somewhat limited number of bee-keepers, and it is a very rare occurrence when a representative exhibition of honey can be obtained There are one or two strong reasons for this—one is that the smaller bee-keepers have a difficulty in selecting, say, twelve sections of sufficient merit to compete with larger producers; another is that the expense of transit and the risk of breakage are so great that it is often considered hardly worth the trouble.

It is to meet these objections that the Show Committee have decided to offer valuable silver cups and medals for what must be considered the smallest possible exhibit, and the smallest exhibitor in the North of Scotland or Ireland has the same chance of winning the prizes as the larger ones in the South, and, by using the Parcel Post, at no more expense. It now remains to be seen whether the enterprise of the Berks Bee-keepers' Association will be responded to by the bee-keepers of the United Kingdom in such a way as to make it really a national display. In our schedule will be found many other classes not usually found in honey shows, such as several classes for honey in various applied forms, &c. The Honorary Secretary will be pleased to forward one on receipt of address. —A. D. Woodley, *Hon. Assistant Secretary, Berks B.K.A., August 12th*, 1892.

NOTES BY AN AMATEUR BEE-KEEPER AND CARPENTER.

(*Concluded from page* 306.)

[1118.] When, after service in India, I settled down in this village, I turned my attention, like the veterans of Augustus Cæsar, to country pursuits. I bought a small farm, planted trees, erected a vineyard under glass, and set up a carpenter's bench, furnished with nearly every tool which is ordinarily used in the manipulation of wood; but, as I am not a heaven-born carpenter, and never learnt the trade, I turned out indifferent work. I found it almost impossible to saw straight and make fittings accurate; and whenever I mentioned, with some feeling of pride, that I had made such-and-such a thing—a table, or gate, or otherwise—the answer invariably was, "Oh, yes; I can see that you did!"—implying, I have no doubt, that the work showed defects upon the face of it.

It happened, however, one day, that I saw a picture of some wooden hives, and immediately the happy thought occurred to me that they would be the very things for me to make, as critics generally would view them from a respectful distance, and defects could easily be remedied by putty and by paint.

I made inquiries about bees and stocks, and inspected two hives at the Rectory; but these were mere skeps, unsuited for my purpose, and the old gardener who had charge of them, when asked to show me what he could, declared that he "dursn't go aninst them." But where there is a demand there surely will be the supply, and having sent to the stores for a wooden hive on modern principles, I got one down next day, without legs, and for which I paid 1*l*. 12*s*. Then I set to work, and now I have thirty stocks in hives of my own manufacture, besides an observatory hive in an attic window. The first year I made six, of all shapes and sizes; but I found this plan would never do, and henceforth determined to make all alike. Tate's cube sugar-boxes, being all alike, are what I buy to begin upon. I put an extra floor; then put extra sides, with boards nine inches deep, so that a case of twenty-one sections will set comfortably upon them. I much prefer those I make to the hive I bought. They have legs, and the depth of the box allows for any amount of packing. The covers are chiefly of the sloping kind, but some are merely three slabs sliced off huge elm-trees, and the cost of which is nominal. They are apt to crack by exposure to the sun, but I cover them with tarred felt and run a plough down beneath to keep back drip. There is no knowing where my apiary would end if I kept all the swarms

and hives which have appeared, but I give away these things to any of my friends who are willing to accept them. Like the story of the nails in a horse's shoe, the village could hardly contain my apiary if I kept everything for myself.

Up to the present year great was my satisfaction when I saw a swarm issuing from a hive, but now I consider the thing rather in the light of a nuisance, and by giving early, ample room, I have managed to hive only four swarms this season. I am fortunate in having a gardener who is a born bee-master. My enthusiasm from the first was transmitted to him, and he reads the *Bee Journal* when I have done with it, and I am surprised to see how well he culls the most important facts from it. I find him most useful in manipulating the hives; indeed I never do anything important, such as robbing, driving, or the like, without his assistance. One wants two pairs of hands and two heads to make things go smoothly. He works the bellows and keeps an eye on the instruments whilst I am manipulating, and I cannot think of any *faux pas* which we have made working together. One day this season he hived a swarm high up in a tree by himself, exactly on the lines of the picture in the *Bee-keepers' Manual*, with a skep stuck on to the end of a pitchfork.

As regards our harvests, they have been as good as could be expected, though certainly not sensational at present. There is nearer a ton than half a ton of honey in the hives, and in a week or two we shall be busy, when my corn is harvested, in realising it. But surely my memo is getting too long, and I will conclude, at all events for the present.—L.

WORKING TWO QUEENS IN ONE HIVE.

[1119.] Can you induce Mr. Wells to tell us how he has succeeded this season with his system of working two queens in one hive, as no doubt there are many of us ready to adopt it if reports are still favourable? It will soon be time now for planning next year's work and I have already laid in a stock of wood for hive-making. I like the idea of Mr. Wells' system very much, and, to my mind, the only drawback is the swarming difficulty, which, I should think, might be overcome by the use of self-hivers.

I am of opinion that Mr. Wells does not give room enough in his brood chambers, as, if I remember rightly, he has only seven frames in each. I propose to have ten in mine, and to have the entrances at either end, which will ensure more ventilation than if side by side. Several bee-keepers have expressed the opinion to me that they fail to see any advantage over the old system, as results equally as good could be reckoned on from two stocks worked in the ordinary way. I fail to see this, however, as I firmly believe, from what I have seen of two nuclei being wintered together in one hive divided by an ordinary division-board, in which case the bees seemed to increase much faster the following spring, that stronger stocks similarly placed would not fail to be in readiness for the earliest flow of honey likely to arrive. It seems to me, too, that there would be a great saving of labour in working one hive instead of two, and obviously one of Mr. Wells' hives could be made at less cost than two ordinary ones, and would take up less room in the apiary.—W. J. S., *Chingford, August 9th.*

ANTISEPTIC QUILTS.

[1120.] I much regret that I am unable to give the information you desire on the above subject, as excepting that which I received from Haverhill, and which was then in use on the beehives of which I sent you an account, I have never purchased any of the material, and do not know where to get it. I was not aware that there was any mystery about it, believing it to be the best quality of asphalte roofing felt. I have not a doubt but that it is a good thing for the purposes I have mentioned, and I cannot account for our editors not finding fibre in it, or for Mr. Cribb's condemnation of asphalte as a heat-absorbing and chilling medium. I am not able, physically, to enter upon a long discussion on the question, but that others may have the opportunity, I shall be willing to send a sample of the material to any one sending a stamped directed envelope, after which I must ask to be allowed to leave the matter in their hands. With thanks for editorial good feeling expressed, —C. N. Abbott, *Fairlawn, Southall, August 8th*, 1892.

EARLY GRANULATION OF HONEY.

[1121.] In August 4th issue of *B. B. J.* there is an interesting paragraph under the above heading in "Useful Hints." I find that some honey I took from the brood chamber of a bar-frame hive about three weeks ago has granulated, whilst that taken from a straw skep a fortnight earlier has not. Can any readers of *B. B. J.* account for it? I also find among the same "Hints" the simple cone clearer recommended. I have sent for some, which I hope to try soon. I will let you know with what success.—Percy Leigh, *Stoke Prior.*

EARLY GRANULATION OF HONEY.

[1122.] My honey, gathered five miles out in Gloucestershire, has granulated this season most quickly. Some of it has set already as hard as after a whole winter. It seems to me that the honey is of unusual specific gravity, its consistency being very dense. I have had to scoop some out of the extractor itself, as it would not run after three or four days. Since then I have kept the extractor in a warmer room with good effect. The prize honey at our

late show, exhibited mostly from North Somerset, was not so thick by any means. Some of our exhibitors remarked: "We must extract before the honey is sealed to get a chance this year."—S. JORDAN, *Bristol.*

EARLY GRANULATION OF HONEY.

[1123.] On Wednesday, July 6th, I had a large bell-glass which was being rapidly filled, and on July 8th I found that the comb had given way from the top of the glass, and had fallen on the board on which the glass stood. I took it off, and found the cells well sealed over. The next day I ran the honey through a cloth, and bottled it off. In about a fortnight it commenced to granulate. I am at a loss to know why it should granulate so quickly. It was a beautiful amber colour and very clear. As I was anxious to exhibit it, I was compelled to liquefy it again.

Since July 8th I have taken off sections and supers, and all the honey commences to granulate like the above soon after being extracted. In all my experience as a bee-keeper (since 1879) I have never had such dark honey from sections as I have taken off during the last fortnight. I noticed about the middle of July how very busy the bees were, yet little did I expect to have a beautiful lot of honey spoiled, for I have every reason to think that the cause of the dark honey is from "honey-dew." Honey is rather a failure round this district, and very few swarms have made their appearance.—THOS. HUGHES, *Woodstock.*

Echoes from the Hives.

Gateshead-on-Tyne, August 5th, 1892.—The clover in this district has been a failure, although strong stocks filled a few sections. I have been feeding liberally for some time, so that my bees are in good condition for the heather, and I have bespoke a berth for them in the waggon of Mr. Atkinson, our "bee-man" here, who has received word that the heather is in bloom. The waggon has already had its annual coat of paint, and on the night of the 12th we commence our annual journey of twenty-seven miles into the Northumberland moors, while the roads, as usual, will no doubt be full of conveyances on the some errand. The journey may seem rather long, but I can assure you that it has been accomplished for many years entirely without accident. The principal danger is from the heat of the bees, but this is safeguarded by having the top crate covered with perforated zinc, which enables us to keep off the covers throughout the whole journey.—J. N. K.

Wye, Kent, August 8th.—I started this year with eight stocks, having lost one during our long winter. I had one swarm at the beginning of May from a straw hive. I find the skeps are generally the first to swarm. From this swarm alone I have taken over twenty-five pounds of honey, and now they have over twenty for the winter. I might say they had all their combs worked out for them, which I find is a very great advantage. From one of my frame hives I have taken over fifty one-pound sections, and I hope to take some more off yet, providing the weather keeps fine, and from my other stocks, which are in frame hives, I have had good results. I am glad to say that the season of 1892 has been one of the best on record with me. I have never known so much white clover about as there has been this year. Respecting the granulation of honey in last week's *Journal,* I find it is very difficult to extract owing to its being so thick, but after it is extracted I found it soon granulated, which I have not known it to do so rapidly before. I am pleased to see by the scheme issued for the proposed Agricultural College, which is likely to be established here, that bee-keeping is included as one of the subjects for study.—H. HEAD.

Castlecroft, near Wolverhampton, August 9th, 1892.—We had a fortnight's honey-flow end of June, but since that the weather has been disappointing, and work seems at a standstill just now. Lots of clover still blooming, but nights are very cold. A Stewarton hive has given three very good supers.—MOUCHE-À-MIEL.

Stoke Prior, August 9th.—We are now having fairly good weather for bees, although the nights are still chilly. Clover continues to be abundant, though, of course, not yielding so much honey as a few weeks ago. I was agreeably surprised to see bees busy at work on the blackberry or bramble (*Rubus fruticosus*) far more than I have ever seen on clover or raspberry canes. The poppies (*Papaver rhœas*) are also greatly patronised—more than they should be, I think. Fortunately, the French beans are loaded with bloom, to which the busy workers pay constant visits. The bees from which I took their store on the 25th of last month, after driving them into a straw skep, are taking down syrup at the rate of a pound a-day, so I hope by the end of this month they will have stored sufficient to last them until next spring. I fed them in the manner described in my letter (1093, p. 286). PERCY LEIGH.

Northampton, August 9th.—At length the chequered season of '92 has come to a close. Two days back a moist atmosphere and a temperature of 70° did not tempt the bees to the white clover, still so abundant; to-day, the slaughter of the drones being nearly complete, the hives are as still as mourning cities. Inquiries respecting "takes" elicited a variety of replies, "nothing" to "wonderful" being the limits. A good many allow that the season has been above an average one. It has certainly been a long one, section-taking extending over two months. Some clover honey candied in less than twelve hours after slinging, notwithstanding being kept in darkness. On the other hand, some dark-coloured honey, probably syca-

more and chestnut, retains its liquidity, though no special pains have been taken to exclude the light. Honey is selling readily at one shilling per one-pound bottle. A dairyman is chief vendor here; he makes quite a grand show of butter and honey.—E. B.

Queries and Replies.

[624.] *Using Old Combs for Wintering On and for Extracting Purposes.*—I doubled a hive this year, and all the combs in the lower portion are now quite black, and have not any honey in them. 1. Are these combs suitable for the bees to winter on, or would they be of any use to use for extracting next year? The queen bred in all three of the bodies, and nearly covered forty frames with brood, so I only got about twenty-five pounds of honey. The hive has only a young virgin queen now, as I destroyed the old queen because she was a hybrid, and her progeny were very vicious. The present queen hatched out before I destroyed the queen-cells. It is extremely difficult to find her, but I hope to do so soon, and introduce a black queen I have ready. The hive now has twenty-four frames in it—twelve above with honey and brood in, and twelve below with none, but a lot of pollen. All the brood will be hatched in a week. The twenty-four frames are *crammed* with bees. I should very much like to make some use of them. 2. Would the bees build combs if I took away all the top combs, and gave foundation and fed? I extracted fourteen frames about three weeks ago, and after the honey was out they all got wet, and some of them have moulded a little. The pollen in some has fermented. 3. Would these be suitable for using for extracting next year? 4. Which number of sugar do you advise for autumn feeding? I found a few cells containing dead, stinking brood on the frames I extracted. 5. Does this look like foul brood?—G. Walker.

Reply.—1. Yes, if not too old. Black combs are unsuited for storing surplus honey in. 2. No doubt a strong lot of bees would build out foundation if well fed, but we should not trouble them to do so at this season, while having ready-built combs on hand. 3. Combs for extracting should be perfectly clean. 4. No. 7. 5. No.

[625.] *Difficulty of Removing Section Racks.*—I fear I shall have great difficulty in removing a rack containing forty sections from one of my hives, the top of the sections being only about half an inch above the body-box, with no space between the crate and the walls of the hive; so I have no means of prising the super up off of the frames. 1. Would it be safe to winter the bees without removing the sections? But then, even if this plan were to act, I should be the loser of the surplus honey in the frames—there are thirteen frames in brood chamber—and I was hoping to get a few pounds of extracted honey from this hive, in addition to the sectional honey. 2. What is a safe number of frames to leave in hive when packing up for the winter? 3. Do you recommend bee-passages through the comb or over the frames?—Percy Leigh, *Stoke Prior.*

Reply.—1. No doubt the bees will winter all right if sections are left on; but you might lift them out singly, and then prise up the empty crate. 2. About seven or eight. 3. We prefer a passage-way left overheard.

[626]. *Non-Sectional Supers.*—1. Will you please explain what constitutes a non-sectional super of honey? 2. Would you consider, say, five little frames, each holding two pounds, placed in a square glass box, and screwed down at top and ends with screws, a super proper, "not sectional?"—J. D. McN., *Laurencetown.*

Reply.—1. A non-sectional super is, as its name implies, one which is not in several parts, or sections. 2. No. A super consisting of five separate frames is decidedly not "non-sectional."

SWITZERLAND.

At the spring general assembly of the Société Romande d'Apiculture, held at the Hôtel de Ville in Sion, there were present Messrs. Dardel, Bertrand, De Blonay, Descoulayes, Warnery, Orsat, Gubler, Secretary Langel, &c. Although many bee-keepers had to start the previous day to get to the place of meeting and travel a long distance, there were upwards of 100 present, amongst whom were several ladies.

M. Descoulayes presided, and announced the presence of Mr. T. W. Cowan, chairman of the British Bee-keepers' Association, whom he invited to take a place next to him on the platform. He said that their honourable guest, Mr. Cowan, had just returned from a voyage in Algeria and Tunis, and would communicate the result of the observations he had made regarding the bees of these countries which are so different to ours. He then gave a *résumé* of bee-keeping in the canton. Thanks to the efforts of the Society, to the meetings, to lectures given under its auspices, and to the light shed by the excellent journal, apiculture is like a mighty tree spreading its branches laden with fruit in all directions. The sections increase annually, honey sells easily, and practice and science develop. The bee-keeper finds in caring for his bees not only gain, but also an agreeable pastime, which has a happy influence on his entire life. The hours spent at the apiary are not spent elsewhere. They initiate us into the mysteries of nature, botany, and science, and make us excellent observers of all that relates to agriculture.

M. Descoulayes then alluded to the various methods of wintering, and said it had been thought possible to leave many frames in the autumn and do without division-boards. In such a case, moisture which condensed on the boards attached itself to the superfluous combs, and they became the receptacles of moisture in the hives. From this he concluded the best plan was to remove surplus combs in autumn,

and retain the division-boards, the utility of which had been found by experience.

M. Dulex, at an altitude of 928 metres (3044 feet), has always strong colonies, and loses none in winter. He attributes this to his method of wintering, which consists in crowding the bees on as few combs as possible, six to seven for the strongest, and he feeds at the end of August or beginning of September. He places mats over the frames, and tucks them down over the division-boards.

M. Bertrand asked M. Pierre de Siebenthal if he had changed his mode of wintering. The latter said, "No." Besides, he says, he has noticed that colonies left with eleven or twelve frames, although strong, have, in the following spring, less brood and are less developed than those that are reduced. He does not approve of having too many combs in the autumn.

Mr. Cowan said that in England the method of contracting has been successfully employed for eighteen years. Before that time they did as M. de Layens, and if too many combs were left much moisture was found in spring, and many colonies were lost. Since combs have been reduced in proportion to the population, wintering is easy and apiculture advances. He added that the division-board has also its use, for it contracts the brood chamber in spring, and makes the bees cover all the combs, whereby the heat is preserved and brood-rearing is encouraged.

M. Langel said he had found the frames in the Layens hives very much mildewed this spring. The hives had strong populations, but were left in the autumn with more frames than could be covered by bees. In some of their cantons the fogs in autumn produced a good deal of humidity. Moreover, why not follow the habits of the bees, who contract their clusters on the approach of cold, even in summer? Do they not give man the directions necessary that he may not act contrary to nature? Had he never heard of division-boards or contraction, this simple fact would have been sufficient for him.

M. Bertrand said all that could be conceded to the Layens method was to leave two frames of combs instead of division-boards. If too many combs are left in the autumn they had to be removed in spring, so that wax-moth should not attack them, and that brood should be more rapidly developed. Then, if they have to be taken away in spring, why not do it in autumn, and give the bees a better chance to winter well?

M. Gübler gave carefully worked-out reports on the statistics of apiaries during 1891, which were listened to with marked interest and attention. One of the points which was demonstrated was with regard to the value of different races of bees. He said: "With regard to the races of bees which we cultivate, 54·1 per cent. are the common bees, 5·7 per cent. Italians, 10·2 per cent. Carniolans, 30 per cent. are crossed races. It is with good reason that the common bee predominates almost everywhere, or it would be a mere chance that the branches of the Society which have the largest proportion of this race are also those which show the largest average returns." This is certainly speaking well for the common bee. The statistics are derived from ten stations in different cantons, and are therefore of value.

On the motion of M. de Blonay, M. Gübler was cordially thanked for his valuable work.

(To be concluded next week.)

Bee Shows to Come.

August 20th.—Honey show in connexion with National Co-operative Festival at Crystal Palace. Liberal prizes. For schedules apply to the Secretary, A. O. Greening, 3 Agar Street, Strand, W.C.

August 23rd and 24th.—Staffordshire B.K.A. Annual show at Stafford. Liberal prizes for bees, hives, and honey. Entries closed.

August 30th and 31st.—South of Scotland Horticultural Society's Show at Dundee. Classes for honey. Entries close August 22nd. For schedules apply to the Secretary, Mr. John Blacklock, Solicitor, Dumfries.

August 31st and Sept. 1st.—At Birkenhead, Lancashire and Cheshire B.K.A., in connexion with the Wirral Agricultural Society. Liberal prizes for honey and appliances. For schedules apply to A. H. Edwardson, Secretary, 28 Hamilton Street, Birkenhead. Entries close August 13th.

Sept. 1st.—Castle Douglas. Extra liberal prizes for honey. Open to all (see special advertisement on another page.) For schedules apply to Wm. Blackwood, Castle Douglas, N.B.

September 6th.—Notts B.K.A. annual show at Moorgreen—bees, hives, and honey. Honey classes confined to Notts only. Entries close August 20th. For schedule apply to A. G. Pugh, Secretary, Mona Street, Beeston.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Sept. 10th.—Bee and Honey Show at Bramall Hall, Stockport. Entries close August 29th. For schedules apply to Wm. Slater, Fern Lea, Bramhall, Stockport.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. P. (Cullompton). — Comb sent is badly affected with foul brood—so much so that, if the other brood combs are anything like so bad, we should advise burning the lot, and putting the bees (if numerous enough to be worth saving) on sheets of foundation, after disinfecting the hive. By taking this course, and using only syrup which has been medicated, the bees have a fair chance of recovery; but only a strong lot of bees, with a good queen, is worth the trouble involved; otherwise, burn bees, combs, and frames, and disinfect the hive.

T. Barry (Liverpool).—Queen sent is a remarkably fine one, and possibly a year or so old, but she may have been bred in the early part of this year. There is no doubt about her being a laying queen.

X. Y. Z. (Apperley).—The honey in comb sent is almost entirely honey-dew.

Michael Wilkinson.—We should rather seek for other causes of your non-success with bees than "water from peat bogs." Is the pasturage of the district suitable, and is the failure general or only personal?

S. Dickinson (Slough).—The comb sent is quite healthy. We can detect no "bad smell" about it. The foundation also is all right.

Richard Perry (Sussex).—You will find full directions for driving bees in the handbook, *Modern Bee-keeping*, price 7*d.* post free, to be obtained of Mr. Huckle, Kings Langley.

W. S. (Nantwich).—You should certainly invest sixpence in an elementary book on bees, wherein will be found full instructions for "taking out a frame without getting stung," and for the general management of a frame hive. *Modern Bee-keeping* referred to above will give you all the information asked for.

H. S. R. (Hertford).—If the queens have shown any lack of prolificness it might be advisable to re-queen the hives; not otherwise, because in some seasons and in some districts very little surplus honey is to be had. For full instructions as to driving, uniting, and re-queening, please read reply to "W. S." above.

Just published, Crown 8vo., price 1s., post free.

BEES FOR PLEASURE AND PROFIT.

A GUIDE TO THE MANIPULATION OF BEES, THE PRODUCTION OF HONEY, AND THE GENERAL MANAGEMENT OF THE APIARY.

By G. GORDON SAMSON.

London: CROSBY LOCKWOOD & SON,
7 Stationers' Hall Court, E.C.

Berks Bee-keepers' Association

WILL HOLD A

GREAT HONEY AND FRUIT SHOW,

In the Corn Exchange, Reading,

On WEDNESDAY, SEPTEMBER 14th, 1892.

SILVER CUPS, SILVER and BRONZE MEDALS, and upwards of £30 in Prizes are offered.

SPECIAL CLASSES.

GREAT NATIONAL HONEY COMPETITION.

The Committee of the Berks Bee-keepers' Association invite Bee-keepers from all parts of the United Kingdom to join in a National Display of HONEY at the above Show.

For the **Best Section of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season:—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

For the **Best Bottle of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season:—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

No other restriction is made as to size and style of Package, which will be taken into consideration by the Judges.

ENTRANCE FREE. The exhibit to become the property of the Show Committee. Entries close Sept. 7th. Schedules and further particulars from the Hon. Secretary, 17 Market Place, Reading.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

CHICAGO EXHIBITION.

BEES, HONEY, BEESWAX AND BEE APPLIANCES.

For the information of British bee-keepers desirous of making an apiarian exhibit of any kind at the World's Fair next year, we give the following particulars, as forwarded by the Secretary of the Society of Arts to the British Bee-keepers' Association, under date August 12th, as follows:—

DEPARTMENT OF AGRICULTURE.

British Section.

1. Exhibits of honey will be classified as follows:—Class 1. Clover and basswood. Class 2. White sage. Class 3. Buckwheat. Class 4. All light honey, other than that enumerated in Classes 1 and 2. Class 5. All dark honey, other than that enumerated in Class 3.

2. Exhibits of honey produced during 1892, or earlier, must be in place on or before April 20th, 1893.

3. Exhibits of honey in Classes 1, 2 and 4, produced during 1893, will be received between July 15th and August 15th; and in Classes 3 and 5 between August 15th and September 1st, 1893.

4. The following information should accompany each exhibit:—*a.* Kind of honey. *b.* Name of exhibitor. *c.* Place where produced. *d.* Character of soil in locality where produced. *e.* Variety of bee. *f.* Name of plant from which honey was produced. *g.* Yield per colony. *h.* Average price of product at nearest home market.

5. This has reference to the glass cases in which the exhibits will be displayed, the height (inside) being six feet; width, five feet.

6. Individual exhibits of comb honey will be limited to 100 pounds, and may be made in any manner the exhibitor may desire, subject to the approval of the Chief of the Department.

7. Individual exhibits of extracted honey must be made in glass, and must not exceed 50 pounds.

8. Individual exhibits of beeswax must not exceed 50 pounds, and should be prepared in such a manner as will add to the attractiveness of the exhibit.

9. Exhibits of primitive and modern appliances used in bee-culture, both in this country and abroad, will be received, subject to the approval of the Chief of the Department.

10. Special arrangements will be made by the Chief of the Department for a limited exhibit of bees.

11. Collections of honey-producing plants, suitably mounted and labelled, will be accepted if satisfactory to the Chief of the Department.

12. The right is reserved to add to, amend, or interpret the above rules.

Names of intending exhibitors should be sent in to Mr. J. Huckle, Sec. B. B. K. A., Kings Langley.

DEATH OF MR. S. STUTTERD.

It is with regret that we have to announce the death of Mr. Samuel Stutterd, which took place, after a very short illness, at Grimsby. Mr. Stutterd was a gentleman of culture and ability, and had long been connected with most of the literary and scientific institutions of the town. He took an active interest in the Mechanics' Institute, and especially in the library. He was a good "all-round man." He had a good knowledge of the best modern literature, and was an able linguist, as well as a naturalist and geologist. At one time he was secretary of the Science and Art Classes and of the Sketching Club. He was also a microscopist and entomologist. His name will be better known to bee-keepers from the fact of his having, in conjunction with Mr. H. Dieck, translated from the German that standard work by Dr. Dzierzon entitled *Rational Bee-keeping*, which was edited in 1882 by Mr. C. N. Abbott. Mr. Stutterd was greatly esteemed by all who knew him.

DERBYSHIRE B.K.A.

FLOWER AND HONEY SHOW AT MILFORD.

The annual show of flowers, fruit, vegetables, and honey and bees, in connexion with the Milford Cottage Garden Society, of which Major A. W. Holmes is President, was held on Saturday, July 30th, in the grounds of Milford House, which had been kindly lent for the occasion by the Hon. F. Strutt, J.P. The weather was beautifully fine, and a good many visitors from Derby and Belper arrived by train and brake. Amongst the ladies and gentlemen

who visited the show during the afternoon were Sir Alfred and Lady Haslam, Hon. Mrs. Jervis, Mr. Alderman T. Roe, M.P., Major Holmes, the Rev. E. Boden, &c.

In a separate tent on the ground were some interesting specimens of bees and honey—a larger collection than in former years. Mr. W. T. Atkins, Secretary of the Derbyshire B.K.A., had charge of this department. The following prizes were awarded:—

Bees (Observatory hive).—1st, G. Pallett, of Makeney; 2nd, J. Rowland, Holbrook.

Extracted Honey.—1st, F. Livermore, Windley; 2nd, J. Rowland; 3rd, G. W. Brindley, Duffield; 4th, J. Horsley, Holbrook Moor; 5th, J. Pallett.

Best Frame of Honey.—Messrs. J. Horsley and G. Pallett, equal first and second.—*Communicated.*

HALE END FLOWER SHOW.

The bee-tent of the Essex B.K.A. was in attendance at the first Flower Show of the newly formed Hale End Horticultural Society, on the afternoon of the 1st of August last, and was filled to overflowing with appreciative audiences, who attentively listened to the two lectures delivered by Mr. Meggy, the Hon. Sec., and evinced much interest in the manipulation of driving, &c., and handling the bees. There was a good display of honey in the flower-show tent in competition for the prizes offered for the best exhibit, which resulted in Mr. Jezeph being placed first, Mr. Dodd second, and Mr. Sharpe, H.C., whilst the prize and certificate of the E. B. K. A. for the best single section of 1892 honey was awarded to Mr. Tracey. Mr. Sheldon, of Chingford, sent a dozen sections, not for competition, that had been worked with separators of perforated zinc, and it was remarkable how far superior they were in every way to those by their side that had come in crates, in which the ordinary separators had been used. Mr. W. J. Sheppard, of Chingford, the Hon. District Secretary of the E. B. K. A., who also acted as the Hon. Sec. of the Flower Show, had an exhibit of honey not for competition.—*Communicated.*

HONEY SHOW AT POTTERS BAR.

The twenty-third annual show of the Potters Bar and Northaw Horticultural Society was held on August 4th in the grounds of Northaw House, kindly lent by Captain Le Blanc; and along with the flowers and fruit were some honey exhibits, among them some well-finished sections.

The bee-tent was erected on the grounds, and during the afternoon Mr. A. W. Harrison, of Potters Bar, gave several short and pithy addresses, which were well attended by interested audiences. He was ably assisted in the tent by Messrs. Child and Parish.

An observatory hive stocked with bees, together with some appliances sent by Mr. Harrison, gave additional interest to the show.

OXON BEE-KEEPERS' ASSOCIATION.

The O.B.K.A. held the first of their two annual shows of honey, &c., on Tuesday, August 9th, in connexion with the Witney Flower Show. The show of honey exceeded that of former years, and the quality in most instances was exceedingly good. The Association are looking forward with interest to the second show, to be held at Woodstock on the 20th of September, when a still better display is anticipated, this being the show at which the medals of the B.B.K.A. are competed for. The bee-tent was present, and the experts of the Association, Messrs. W. J. Austin and Hancox, lectured and gave demonstrations of bee-keeping therein to large audiences during the day. The prizes were awarded as follows:—

Six sections.—1st, Mr. Borley, Lewknor; 2nd, J. Edmonds, Cornbury Park.

Six bottles extracted honey.—1st, Mr. Crisp, Henley; 2nd, H. W. Seymour, Henley-on-Thames.

Specimen section.—1st, J. Edmonds; 2nd, Mr. Crisp.

Wax.—1st, Mr. Borley; 2nd, H. W. Seymour.

Specimen bottle.—1st, J. Edmonds; 2nd, T. Hughes (Coombe).

Glass super.—1st, Mr. Smith; 2nd, Mr. Crisp.

Largest and best collection of honey.—1st, Mr. Bartlett; 2nd, Mr. Crisp.

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

The annual exhibition of this Association was held on Wednesday and Thursday, the 17th and 18th inst., and formed an important department of the Shropshire Great Floral Fête, held in "The Quarry," Shrewsbury. The opening day, in regard to weather, was everything that could be desired; but the second day was far otherwise, and must have been a great disappointment to the many thousands who usually visit the show.

The prize list contained thirty-eight classes, and embraced, besides the usual objects, honey preparations in the form of cakes, fruit preserves, and beverages; honey-yielding flowers; and new inventions applicable to bee-keeping.

The result of careful planning and much evident forethought on the part of the managers, supported by warm enthusiasm on the part of the numerous exhibitors, was such a display of the bee-industry as is seldom met with—in fact, it may be said that the Shropshire Annual Show is, perhaps, the largest county exhibition in the kingdom.

The total amount of honey staged approximated to 2700 lbs. It is worthy of note that, to obtain the distinction of winning an almost

nominal prize, many exhibitors competed in those classes devoted to 48 1-lb. bottles and 48 1-lb. sections, as well as in those for the 24 lbs. In face of such facts as these, the uneasiness of a recent inquirer as to the position of the Shropshire Association may be allayed. Where general excellence, both as to the quality of the honey and the mode of treatment for the show, was so strikingly apparent, it is unnecessary to select individual instances for special remark. In the class for appliances, Mr. Meadows made an excellent display of articles of a very useful kind, as did also Mr. Whittingham. The hive classes, though small, were well up to date. The task of judging was assigned to Rev. J. F. Buckler, Mr. W. Lees M'Clure, and Mr. Jesse Garratt.

Honey Classes (*Open*). — Forty-eight 1-lb. sections: 1st, C. P. Meadows; 2nd, G. Preece. Twelve 1-lb. sections: 1st, Miss T. Ward; 2nd, H. Wood. Forty-eight 1-lb. jars of run honey: 1st, J. Carver; 2nd, T. B. Horton; com., W. P. Meadows. Twenty-four 1-lb. jars of ditto: 1st, Mrs H. Austin; 2nd, W. Williams; h. com., H. Wood; h. com., T. B. Horton; com., J. Carver.

Honey Classes (*Members of the S.B.A. only*). —Forty-eight 1-lb. sections: 1st, — Cartwright; 2nd, T. B. Horton; com., G. Preece. Twelve 1-lb. sections: 1st, — Palmer; 2nd, T. B. Horton; com., — Roden. One 1-lb. section: 1st, T. B. Horton; 2nd, H. Wood. Forty-eight 1-lb. jars run honey: 1st, — Cartwright; 2nd, — Pritchard; h. com., J. Carver. Twenty-four 1-lb. ditto: 1st, T. B. Horton; 2nd, — Pritchard; h. com., — Cartwright; com., A. Hamer; com., C. Brocklehurst. Best twenty-four pounds dark run honey: 1st, H. Wood; com., — Nichol. Most attractive novelty in honey: 1st, — Roden.

Honey Trophy (*Open*).—1st, H. Wood; 2nd, — Bradley.

Hives and Appliances (*Open*).—Best hive, price not to exceed 15*s.*: 1st, W. P. Meadows; 2nd, — Oliver. Best hive, price unlimited: 1st, J. Carver; 2nd, W. P. Meadows; h. com., — Colliss. Best hive, confined to Shropshire makers: 1st, G. Carver. The best collection of appliances: 1st, W. P. Meadows; 2nd, — Whittingham. Best feeder: 1st, W. P. Meadows. Best new invention: 1st, W. P. Meadows. Best one pound brood-foundation: 1st, A. Beale. Best one pound super-foundation: 1st, W. P. Meadows. Best two samples of soft candy: 1st, G. Carver.

Bees.—Best exhibit of foreign bees, with queen, in observatory hive: 1st, A. Hamer; 2nd, T. B. Horton. Best exhibit of pure English bees, with queen, in observatory hive (Salop only): 1st, T. B. Horton; 2nd, A. Beale.

Artisans' Classes.—Best twenty-four pounds comb honey: 1st, A. Hamer; 2nd, P. Jones. Best twelve 1-lb. sections: 1st, T. Pritchard; 2nd, T. W. Carpenter. Best twenty-four pounds run honey: 1st, T. C. Clark; 2nd, T. W. Carpenter; h. com., T. Pritchard. Best exhibit comb honey, in any kind of super: 1st, J. Badger; com., J. Evans.

Cottagers' Classes.—Best twelve pounds comb honey: 1st, G. Craxton; 2nd, J. S. Craxton. Best twelve pounds run honey: 1st, G. Craxton; 2nd, J. Evans; h. com., G. Lloyd. Best six sections: 1st, J. Ward; 2nd, C. Mainwaring; 3rd, E. Rogers. Best six pounds run honey: 1st, J. Evans; 2nd, J. Lewis, 3rd, J. Griffiths; h. com., E. Rogers; com., J. Shuker.

Bee Flowers.—Best exhibit of bee-flowers: 1st, A. Beale; 2nd, A. Hamer; 3rd, J. Bradley. Ditto (cottagers only): 1st, G. Lloyd.

Miscellaneous.—Best honey beverage: 1st, J. E. Roden; h. com., Mrs. Beale. Best preserved whole fruit in honey: 1st, J. Manning; h. com., J. E. Roden. Best honey cake: J. Bradley; h. com., G. Lloyd. Best two pounds beeswax (Salop only): 1st, T. B. Horton; h. com., A. Beale, F. Lansdowne. For the best object of general interest to bee-keepers: J. E. Roden.

The judges drew the attention of the executive to the fact that the hives exhibited as Observatory hives, in which the queen was intended to be under view, did not comply with the usual requirement, and, in the circumstances, the judging could only be done by going outside the schedule description.

HONEY SHOW IN CONNEXION WITH LYTHAM, KIRKHAM, AND BLACKPOOL AGRICULTURAL SOCIETY.

This annual show was again held in the Royal Palace Gardens at Blackpool on August 16th, and an exhibition of honey and bee-appliances formed an interesting part of the show. The neighbourhood is good for bee-keeping, and much interest is taken in the pursuit, Messrs. G. P. Muloch and George W. Carr being prominent in doing all in their power for its success. The honey was staged along one side of a large marquee, the end being occupied by a most creditable exhibit of appliances by Mr. John Roe of Poulton-le-Fylde (the only appliance exhibitor), forming a "complete outfit for an apiary." The special prize for this class (presented by the Lancashire and Cheshire Bee-keepers' Association) was well earned. In spite of the bad season in the north, and the fact that entries in the honey classes were confined to the Society's district, the amount staged was at least double that at last year's show. For comb honey there were nine entries; but, with the exception of the first prize exhibit, the sections were only of fair quality. The run honey was, however, almost without exception of excellent character, and caused the judges some trouble in their decisions, so close were some of the samples in colour, flavour, and good consistency. There were fourteen entries in this class. Mr. G. P. Muloch acted as judge, and was assisted by the Rev. J. F. Buckler, chairman of the Lancashire and Cheshire B.K.A.

Prize List.

Extracted honey.—1st, Mrs. Kirby, Kirkham; 2nd, James Cragg, Great Eccleston; 3rd, G. W. Carr, Fleetwood; h. com., R. Tyler, Thornton;

C. John Roe, and Jabez Catterall, both of Poulton-le-Fylde.

Comb honey.—1st, George W. Carr; 2nd, John Taylor, Poulton-le-Fylde; 3rd, Robert Tyler.

Complete outfit for an apiary.—1st, John Roe.—*Communicated.*

ANNUAL "OUTING" OF MESSRS. ABBOTT BROS.' WORKPEOPLE.

The annual outing of the men and boys connected with this firm took place on Saturday last, Egham being chosen as the destination. The party numbered about one hundred, and included Messrs. C. T. and S. W. Abbott, the respected heads of the firm, and several visitors. As usual, the start was made from the firm's premises in the High Street, the neighbourhood appearing *en fête* as the numerous waggonettes and brakes drew up to receive the party. The morning was gloriously fine, and the start was witnessed by a crowd of onlookers, the strains of a good band (Brentford gasworks) putting everyone in the highest of spirits. A pleasant ride a little over an hour brought the party to Tims' boat-yard, where a number of pleasure boats were in readiness to receive them. In due course the "Angler's Rest Hotel" was reached, and the visitors at once set themselves to the enjoyment of boating, angling, &c. At noon an excellent dinner was partaken of in a large marquee; and thanks to the untiring energies of the Messrs. Abbott, every one enjoyed the outing immensely, and the day will long be remembered as a very happy one.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

UNITING BEES.

[1124.] In your *Journal* of July 18th (1090, p. 285) you inserted a letter of mine. If your readers will refer to that letter, they will see that my bees enter their hives through entrance chambers 7 × 7 × 18 ins. Two entrance chambers are placed side by side, and have a wooden partition to divide them. The partition has a passage-way for bees along part of its length, at the bottom 10 ins. long and ¾-in. deep, with a slide to shut up if need be. The hives are placed at each side and a bee-passage is cut through the side of each chamber 11 ins. long, with a slide to shut if necessary, and also to regulate the size of the entrance to the hive. These entrances have, since June 28th, been left fully open (11 ins.). The hive entrances were 15 ins. apart and faced one another, and the passage through the division was opposite to them. For a time there was no sign of fighting, but we had a few cold days and the bees did not fly much, and I thought there was not that friendly feeling towards one another, and, as it was my intention sooner or later to join the hives, I thought it better to do so at once, before robbing commenced. I therefore did so on July 28th, a full month after swarming. The hives had each two compartments, one above the other. No. 2 hive, with the young queen, was moved from its position, and No. 1, with the old queen (the swarm), was put in its place. No. 2 bees coming in would find their queen easier if she was at the bottom, for they had to cross over from their entrance chamber. No. 1 bees were placed on the top. I made no preparation to quieten them. There was no fighting. The passage through the side of No. 1 entrance chamber was shut with a slide, and that chamber was soon crowded with bees in great confusion; but they soon found that their queen was opposite. They marched across, but not straight; they went along the back end of Nos. 1 and 2 chambers, and entered their own hive, as it were, by a back door at the further end of its entrance passage from the outside. The No. 2 bees, coming into their usual chamber, entered the hive nearest to the outside, and the two lots of bees seemed in a great measure to enter the eleven-inch entrance one at each end. The next day being fine, the bees all flew out by the adjoining chamber, but the No. 1 bees came back by their old chamber, and as they passed under the division I was able to count them. It was not very easy, as they came in clusters. There were about 140 per minute. The No. 2 bees came in by their own entrance, but as all bees went out that way, there was confusion, and I could not count them. I should say there were 100 coming in. I should think 240 will represent the bees from both lots coming in per minute.

I have carried out this process with other similarly placed hives with the like result. We all know that bees are certain to fight if joined without any preparation. I would like to know if you two Editors, or any of your readers, can tell me how long it takes for bees from the same hive to forget one another if kept some distance apart?

The weather has now changed. I have very little honey, but a friend, living ten miles from here, writes on July 30th: "It has, as you say, been a bad season again for bees, but I have, from one good hive, succeeded in taking two good, well-filled supers of excellent quality. This shows what a good hive will do even in an indifferent season, if only it is in *good condition at first.*"—F. M'C., *Ecclefechan.*

PRACTICAL QUESTIONS.

[1125.] May not a few practical questions be useful in your *Journal?* One gets so much science in the regular bee-literature, which, although useful in its way, yet fails in the minor points which lead to the success at which the science aims. I am an amateur and a beginner. Now, I wish, after having taken my sections, to secure a moderate amount of honey for home supply. I find no journal to tell me when I may extract it with safety. I do not mean the extraction early in the season, and returning of combs for refilling, but now or later, extracting a portion from each hive. For instance, I have six hives, and all have done fairly well. They have no regular supply now to depend upon, but I should believe only daily sustenance. Now, I should like in the autumn to have away from them say one bar of comb from each; can this safely be done? I should leave five or six frames for their winter consumption, and certainly feed both in autumn and spring. Another point of doubt I should like clearing up, and I have submitted it to bee-writers without success. I took a swarm early last season in a flat-topped skep. It did well, filling it with comb and honey. I have placed sections upon it, but the bees do not work in them with the same vigour as they do in the rest of my hives.

The point that has chiefly puzzled me is this: During the whole of last season, as well as of this, the bees, though working well, have hung about the front of the hive in clusters, giving the impression of imminent swarming. They have even remained out at night on very warm nights. They are not queenless, as they have bred well and are continually carrying in pollen; in fact there is nothing to account for the absolute laziness of a whole crowd at the front of the hive during the whole season. I moisten my finger with saliva and put it among them on the alighting-board, and they crowd round it and drink eagerly, but show no disposition whatever to resent my intrusion. This is altogether so different from the conduct of the rest of the hives, where there never seems to be an unemployed bee, that I am at a loss to understand it. I am in a neighbourhood where the supplies are intermittent, commencing with apples, pears, &c., then the sycamores, and followed by limes; after that there is no regular supply, as clover and heather are not quite near enough. However, this season I managed to secure nearly ninety pounds of honey in sections from my six hives. This, though of course small for the country, shows what may be done by busy bees, even in busy London.—G. W. T., *Fulham.*

[It is not too much to say that our correspondent, if he reads his *Bee Journal* regularly, will not lack the information he asks for. Meantime, we may say that experienced bee-keepers wisely leave to their bees what stores are left in brood chambers after removing surplus. It is foolish policy to rob bees too close, and have to feed back in autumn and spring, or suffer loss in consequence. If bees become constitutionally lazy, the stock should be re-queened.—EDS.]

EARLY GRANULATION OF HONEY.

[1126.] In your issue of August 4th you invite correspondence as to the quick granulation of honey. I extracted some the beginning of last month, which I found thoroughly granulated a fortnight after, and on the 13th inst., when extracting some unfinished sections, on uncapping them I found a lot of the honey granulated in the cells—a thing I have never found before. Last season I had some sections left as far on as March, in which the honey remained perfectly liquid. I am sending one of the sections for your inspection. It has been a poor season about here for the bees, especially for skeppists, as swarms have been very few.—E. C. R. WHITE, *Salisbury.*

STING-PREVENTIVES.

[1127.] I do not know if any of the numerous bee-keepers have ever tried the following experiment for preventing bees stinging. This is my experience. I wanted to examine a large hive of driven bees without smoke or veil. I purchased four-pennyworth of the oil of cloves of the chemist, rubbed a few drops over my hands, arms, and face, took off the top of hive, and thoroughly examined bees and frames. They became very excited, running over my hands and face, but never stinging me. Perhaps others have tried it, but I have seen no note of it in the *B.B.J.* I was told of this remedy for preventing stings by a friend of mine whose father (Herr Iquaz Oesterricher) was a great bee-keeper in Hungary many years ago. His son remembered it by his father having constantly rubbed it on his face and hands when a little boy. If Mr. L. Houghton (1114, p. 307) will try it, I trust he will find it better than ammonia. Is there any remedy for preventing moths breeding in hives?—GEORGE R. ALLEN, *Wickham Market.*

[We know of no better preventive of moths than naphthaline.—EDS.]

SUPER-CLEARERS.

[1128.] Very seldom do we see any report in the *B.B.J.* from any of the Wotton-under-Edge bee-keepers, though there is a flourishing Association in the town and immediate district, and a by no means small number of enthusiastic bee-keepers anxious to grasp all information possible on the subject. But what I wanted to write about chiefly was "super-clearers," one of the greatest boons a bee-keeper can possibly have, next to having supers well filled. No stings, spoilt sections, nor ill-feeling between the bee-keeper and his neighbours.

I see our editors are recommending a cone in the roof as cheapest and best, but I think it causes much less excitement for a clearer to be put on at night and super taken off in the morning, than for a crowd of bees to be leaving by the roof in the daytime. With regard to cost, any one with about sixpennyworth of material and less than an hour to spare can make one

which answers the purpose as well as one costing 3*s*. or more. Accompanying is a rough sketch of a simple clearer, which a friend and myself worked out and tried with perfect success. It consists of a shallow box, two inches deep, with a couple of cones fixed therein pointing downwards. The bees pass from the super through the cones into the hive below quite readily, and cannot return.

The honey crop here has been very small, most stocks yielding *nil*, my own included, whilst a few have done fairly well. The last fortnight the bees have spoilt what few sections there were left on the hives by finishing them with honey-dew. I took some off for a bee-keeper last week which had the appearance of being filled with gas-tar.—ARTHUR J. BROWN, *Wotton-under-Edge.*

NOTES FROM IRELAND.

[1129.] Expert touring is now rendered easy by the introduction of "super-clearers." Carrying out your "leaderette" to the letter, it is a perfect success. I "cleared out" twelve hives standing on thirteen yards of ground (smart work, mind, by old-fashioned method). It was a hard job to manage some which had on "Benthall crates." I began at 3 p.m., then left them so till next morning about 9 a.m. All I had then to do was to keep two carrying away the honey. About six bees remained on the whole lot. Next lot, about six miles away, I placed on the clearers at 8 a.m. I then went to unite three swarms that were in old boxes about ten perches asunder, no hive intervening, two this side of hedge, and one behind hid out of view. I placed the frame hive in position about midway between the lots, set five frames with foundation, placing them apart in the hive so as to admit the increased lot of bees. I began smoking No. 1, and bumped the lot in front of hive; put on flour, and brushed adhering bees from combs into the mass. Proceeded same way with Nos. 2 and 3. I then proceeded indoors, and fixed honey and brood in remaining five frames, and placed an inclined plane to front entrance, and then smoked and floured the lot. I saw one queen, and placed her to entrance; she ran in, and her lot followed. Now the work began, the bees making for their former habitation. I placed the boxes over them and brought them in front of hives again; this time they "bunched" about the grass. I caught No. 2 queen, and ran her in; still the "bunching" went on. I floured and smoked every bunch I could see, and the entire lot settled on my hat. I had no veil all the time, nor had I to put one on. I kept on carrying in front. I lost temper a little, and applied fumes of smoke on every bunch I could see, smoking at a fearful rate any that returned to their former abode. I was full busy for an hour; at length I succeeded, and every available bee was in front of new hive. I remonstrated with the farmer for not placing the lots near each other, and he replied, "If I had everything right, what would I want with you?" At eleven o'clock they had settled down as one family, not a single bee returning to the former domicile. A swarm in a brandy case about half a mile away had to be left in the potato garden, so, having finished uniting, I returned to the super-clearers, and we took all the honey into the dairy, and not a single bee remained in it. The farmer took me on to his brother's place, and I wanted the latter to allow me to place on the "clearers" on four frame hives, so that he could return in the evening and take the honey off. He said it was not worth while. I assure you we got more torment with this lot than all the rest, having to take the honey indoors and brush the bees off. The farmer's sister said, "The three lots of bees were near defeating you. When I saw them on your head I gave up. Had any one else been at it they would have been lost." Before leaving we visited the united (three) lots, and the hive had assumed the usual contented hum which experienced bee-keepers know. I have met with a very neat section showcase, sold at 1*s*. 5*d*. per dozen. It is a boon to exhibitors, and any honey exposed for sale in same will surely realise at least 3*d*. per pound more than when shown in its blessed nakedness. —J. TRAYNOR, *Tinahely, Ireland, August 15th.*

CIRCULATING BEE LITERATURE.

A SUGGESTION.

[1130.] I am a beginner in bee-keeping, and like many others am anxious to read all the literature upon the subject that comes across my path. I find that, as a rule, Free Libraries are not given to stocking bee-keeping works or periodicals; it has therefore occurred to me that Bee-keeping Associations might very readily and legitimately assist in the circulation of works on the scientific aspect and practical management of bees in the following manner:—

By (*a*) applying part of the grant derived from County Councils in the purchasing of standard works and presenting them to Free Libraries; or (*b*) supplying members of Associations with these works at one-half or one-third of their cost; or (*c*) establishing a library of works on bees, accessible to members of Associations—the books to be kept at the house of the secretary for the time being or other place to be decided upon; and that (*d*) books on bees might be offered either solely or in addition to monetary prizes at agricultural shows for best specimens of honey. I think that one or all of these plans might easily be adopted, and the movement stimulated thereby. — E. NORTH LEWIS, *Leicester, August 12th.*

Queries and Replies.

[627.] *Black Honey.*—The advice you were kind enough to give me some time ago as to the best method of transferring one of my stocks

from a straw skep to a bar-frame hive, I have followed with excellent results. The bees have done splendidly since, and the combs are beautifully straight. I am in another difficulty now, and a very different one. For the last week or ten days my bees have been bringing in black honey. At first it was a sort of dirty grey colour, but now it is quite an inky black. The flavour is not greatly different from the other; it is, if anything, slightly sweeter. In all my hives it is exactly the same. Will you kindly tell me what is the probable cause? One of my friends suggests that the blight has something to do with it, another that it is eucalyptus honey, but I do not know what that is. Of course the sections are completely spoilt. Supposing I extracted all the honey, and fed the bees rapidly with it, would they purify it before returning it to the combs, do you think?—M. M. B., *Bath.*

Reply.—Whatever the black honey is from it is certainly not the eucalyptus, the colour of the honey from the latter being brown, not black. It is probably honey-dew, and the bees cannot "purify it" as suggested. You may give it them for food, but it is fit for nothing else.

[628.] *Drone Brood in Surplus Chambers.*—In extracting, on the 8th inst., from eight full-sized frames above excluder zinc, all of them being heavy slabs of honey, I found one comb with about ten scattered drone-cells, sealed and contained pupæ. The hive is a good double and I have no reason to suppose it queenless; indeed, pollen is being brought in freely. Is it very uncommon for a worker to deposit eggs in a hive that has a queen, or is some other solution to be looked for?

May I give a caution to purchasesrs of extractors? Last year I bought one. The rotating frame comes about flush with the top, and naturally the honey flies over the edge, and "all over the shop." The operator's clothes get plentifully sprinkled, and, on going back to the hives, the bees find his person unusually attractive. The handle, too, is very weakly attached, and often has to be fished up from the depths beneath.

Allow me to thank you for extra quantity in *Bee Journal* for the 11th inst.; the added pages form "a good super, well filled."—S. Jordan.

Reply.—It is very unusual for a fertile worker to deposit eggs unless the hive is queenless or headed by a worn-out queen, and in the few cases where it does occur the queen-excluder is generally blamed for it, as to some extent dividing the hive. This is the most likely reading of your case.

[629.] *Queen Injured in Driving Bees; Time for Extracting Honey.*—I last week assisted a friend to drive a stock of bees from a small hive, the combs of which were all crooked and joined together, the idea being to put them on good combs in another hive. To our surprise, however, after driving the bees we found the queen at the bottom of the hive, she having got injured in some way during the driving. But, there being some life in her, we returned her to the bees. In the evening she was found outside the hive surrounded by a small cluster of bees, so we put her back again. The bees seemed pleased at this, but next morning my friend found her again outside the hive, dead. We have tied in some eggs and brood in different stages. 1. Will the bees raise another queen from this, and, if one is raised, will she get fertilised this season? or would you advise us to introduce another queen, or would a queen with a lot of driven bees be preferable? 2. When is the latest or the best time to extract the honey from my hives? I shall esteem it a great favour if you would give me advice in next *Journal*, which we are greatly indebted to for the useful hints that it contains week by week.—G. Leeding, *Dorset, August 15th.*

Reply.—1. The bees will most probably raise a queen, but the chances of her being safely mated so late in the season are very remote. If a late second swarm with young fertile queen can be had, by all means unite it to the queenless lot. 2. Any honey still in the hives—other than that from heather—should be at once removed and extracted.

[630.] *Bees Refusing to Work in Supers.*—I know but little of the art of modern bee-keeping, and that little I have learned from reading the *Bee Journal.* I have three frame hives and two skeps. I had a large swarm from each of the skeps on the same day (first week in June); these I united in the evening, and put them in a frame hive with comb foundation. This they worked out well, and soon filled the hive, but when additional room was given by supers at the back, the bees were at first very unwilling to work in the sections. These are now ready to remove. From hive No. 2 I have taken sixteen one-pound sections, and there is more ready to come. I put supers on the skeps after they had swarmed, but the bees in both refused to work in them, or even enter them since swarming, though there seems to be plenty of bees. 1. Can you say why they refuse to take to the supers? On July 30th I had a large swarm; I expect they came from the hive of united bees, but am not sure. Thinking it too late for them to establish themselves in a skep, and not having another frame hive, I put the swarm into an old super, on four bars of foundation, till I should get one. They are now placed on the floor-board of the new hive. 2. How am I to get these combs and the bees into the new frames? The top bars of the frames they are on measure thirteen inches by six deep, and the new ones seventeen by eight and a half. Should I attempt to drive the bees as from a straw skep, and tie the old bars to the new ones, or cut out the combs, and if so, how should I fasten them? 3. I read of experts visiting and overlooking apiaries; I should be very glad to have a visit from one, to advise me what to do at the present time, and

how to take the surplus honey. Can you tell me if such a gentleman comes into the Ely district, from which I am only five miles by rail? —E. M., *Highfield, Littleport.*

Reply.—1. The bees of hives which have swarmed very rarely take to supers, for several reasons; first, the bulk of the population having left, there is usually no overcrowding, and room enough for storage below. 2. The safest plan will be to fasten the top bar of the small frames to the under side of the larger one, after removing the bottom and side bars of the former. If the standard frame is laid bottom up, the top bar of the small frame may be laid on it, and a screw driven through each end of both bars from the under side on transferring. The bees then may be shaken off each frame (as it is removed), and allowed to run into the hive. 3. Perhaps some reader will supply the information asked for.

[631.] Will you tell me whether I have acted wisely? I had a hive of bees filled with non-standard frames, the combs of which were crooked and distorted. I was desirous of transferring the bees, or rather that they should transfer themselves, to standard frames. After taking a few combs of honey only, I removed the bottom of the hive and put the hive on the top of the frames of a new hive supplied with standard frames and foundation. 1. Will the bees take the honey down to the new combs and thus enable me to take away hereafter the old combs and hive? The old combs left to the bees are filled with honey and brood. 2. Would feeding be advisable, as there is not enough honey left in the old combs to fill all the new ones, which are larger?—H. Conybeare, *Wimbledon.*

Reply.—1. The point is, how long ago was the old hive set above the new one? If only recently, the bees will probably do no comb-building in the lower hive this year. 2. The bees will require feeding until a sufficient quantity of food has been stored for wintering on. It will do no harm to winter the bees as they now are, with the empty hive below; and if the frames of the upper one are reduced in number, the bees will work into the lower hive as room is required in spring.

SWITZERLAND.

(*Concluded from page* 321.)

Mr. Cowan, on being called upon, then described the race of bees in Tunis and Algeria, about which there has been a good deal of talk lately. In order to be more completely informed, he went into the country, and found that Tunisian bees, of which some persons pretend to make a distinct race, are identically the same as those of Algeria; that is to say, they are slightly smaller and blacker than our common bees. They are active, very prolific, but exceedingly vindictive. It is difficult, even sometimes impossible, to prevent them swarming. Several good bee-keepers told him that they had not succeeded in preventing them doing so. The same colony gives six to eight swarms, and sometimes the last are made up of nearly as many young queens as workers. In one instance, where a hive had lost its queen, he counted on one comb from sixty to seventy queen-cells. These bees are aggressive in the highest degree, and it is useless to go near a hive without being protected by a veil and armed with a good smoker, for they attack and follow you to a great distance. It is only weak colonies and those having young bees that are relatively quiet. This race has a mania for propolising and of constantly renewing its queens, and like with other Oriental races, the hives are frequently infested with a large number of fertile workers. The honey harvests are not very large and did not appear to be in proportion to the honey resources offered by the country. In summing up, Mr. Cowan absolutely dissuaded bee-keepers from introducing African bees into our countries, and considered it preferable to improve our indigenous races by selection rather than have recourse to such foreign elements. Mr. Cowan then gave a detailed description of bee-keeping in northern Africa, and said that the nomad Arabs, who live in tents, generally kept a few hives. They are about one metre long, and are made of fennel stalks or cork bark in Algeria, and of wicker-work, covered with cow-dung, in Tunis. These hives are placed horizontally, and are closed at the ends with boards or cactus leaves. The entrance is at one end of the hive. To remove the honey the Arabs open one end and drive the bees forward by a lot of smoke; then the hive is turned round, and a fresh entrance made. In this way the combs are partly renovated every time honey is removed. The Kabyles, who live in villages, cultivate bees on a large scale. All the natives consume large quantities of honey, and European bee-keepers sell theirs to them. Mr. Cowan was then thanked for his communication.

M. Bertrand showed and described the album hive of M. Derosne. In this the back of the hive can be opened like a door, and the frames hang on pivots attached to the top and bottom front corners. In this way the frames can be swung round to a certain distance, and the combs examined without removal from the hive. The idea is very ingenious, and no doubt the hive will be tried and reported upon.

M. de Blonay placed at the disposal of the Valais bee-keepers a supply of naphthaline, which he had obtained from the gasworks at Lausanne. M. Rochat-Reisser, the director of these works, had cured his bees of foul brood with this material, and had sent it for distribution.

There were several other subjects brought forward and discussed, and then followed an examination of the objects brought for exhibition. After this the bee-keepers retired to the Hôtel du Midi, where they sat down to dinner. M. Descoulayes again presided, and as usual several toasts were proposed and humorous

speeches made. After dinner, part of the company went to visit the apiaries belonging to Messrs. Spahr, Gabrioud, Guy, and others, while the remainder walked over to Bramois, a village about a couple of miles from Sion, where the establishments of Messrs. H. Guy, Lorretan, and Gabriond were situated. A great many hives were opened, and all testified to the great care and attention given to bees by the bee-keepers in the canton Valais. The country is lovely, surrounded by mountains, and honey abundant. In the evening an informal meeting of bee-keepers was held at the hotel, and notes were compared and different points discussed. An excursion was also made to the ancient chateaux, and some rare alpine plants, only to be found in this locality, were gathered. Next day some of the party went to visit the apiary of M. Orsat, the president of the Valais section, and were most hospitably entertained by that gentleman.

TUNISIAN BEES, MISCALLED "PUNICS."

We have just discovered that the Punics soil their capped honey all over with bee-glue; in fact, it looks as if it had been daubed over with a dark-coloured, dirty varnish. If this is true of all Punics (and Mr. Cowan says as much in another column), it will rule them out of all apiaries.—*Gleanings*, August 1st, 1892.

Bee Shows to Come.

August 30th and 31st.—South of Scotland Horticultural Society's Show at Dundee. Classes for honey. Entries closed. Secretary, Mr. John Blacklock, Solicitor, Dumfries.

August 31st and Sept. 1st.—At Birkenhead, Lancashire and Cheshire B.K.A., in connexion with the Wirral Agricultural Society. Liberal prizes for honey and appliances. For schedules apply to A. H. Edwardson, Secretary, 28 Hamilton Street, Birkenhead. Entries closed.

Sept. 1st.—Castle Douglas. Extra liberal prizes for honey. Open to all (see special advertisement on another page.) For schedules apply to Wm. Blackwood, Castle Douglas, N.B.

Sept. 6th.—Notts B.K.A. annual show at Moorgreen — bees, hives, and honey. Honey classes confined to Notts only. Entries closed. A. G. Pugh, Secretary, Mona Street, Beeston.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. Entries close August 31st. Schedules in due course from John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Sept. 7th.—Annual Honey Show and Fair of the Herefordshire B.K.A. in the Butter Market, Hereford. Consignments of honey for sale solicited. For schedules apply Mr. Joseph Thomas, 41 Eign Street, Hereford. Entries close September 3rd.

Sept. 10th.—Bee and Honey Show at Bramall Hall, Stockport. Entries close August 29th. For schedules apply to Wm. Slater, Fern Lea, Bramhall, Stockport.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Sept. 17th.—Great Honey Show of the Berkshire Bee-keepers' Association at Reading. Silver cups and medals, bronze medals, and over 30*l.* offered in prizes. No entry fee for the National Competition for a single section and a single one-pound jar of extracted honey. Entries close September 7th. For schedules apply to Hon. Sec. Berks B.K.A., 17 Market Place, Reading.

Dairy Show, Agricultural Hall, London, in October next. Liberal prizes for honey. For schedules apply W. C. Young, Sec., 101 Fleet Street, London.

Notices to Correspondents and Inquirers.

INQUIRER (Alloa).—Honey adulteration can only be detected by careful analysis, such as no ordinary amateur could carry out.

X. Y. Z. (Apperley).—*Honey-dew.*—We do not know that honey-dew is injurious to human beings, but it is certainly not pleasant to contemplate as an article of food.

A NORTH DEVON BEE-KEEPER.—*Painting Hives Inside.*—So far as disinfecting a hive that has been occupied by a foul-broody stock painting it thoroughly inside and out will be found as effective as anything, but in the case of a new hive there is nothing to disinfect, and paint will not suffice as a preventive.

H. J. BANKS (Lincs.).—Comb is slightly affected with foul brood. We should remove every particle of comb which contains dead brood and destroy it. Unless this is done the disease will develop rapidly; dead and rotten brood being a most favourable medium for the propagation of *Bacillus alvei*, or foul brood. Use remedies also without delay.

A. H. PEACH (Oadby).—*Water for Bees.*—Some bee-keepers keep, near to the apiary, a vessel full of spent tea-leaves, which are kept constantly wet for the bees' use. Others arrange a tub holding, say, a couple of gallons of water, and allow a constant drip to run from it by means of a spigot on to a board inclined against the tub. The board being always wet, bees soon get to visit it for water.

A. WHITEHEAD.—*Bee-Parasites.*—The bees sent are infected with the bee-parasite known as *Braula Cœca*, or blind-louse. Full particulars of it, with illustration and also a remedy for the pest, appeared in *Bee Journal* for March 19th, 1891, to which please refer.

GEO. ELLIFF (Clapham).—*Re-queening Hives.*—If the queen of frame hive is three years old, it will be good policy to unite the bees and young queen of the swarmed hive to it as soon as the breeding season ceases.

EMBSAY.—1. Both lots of driven bees should be thrown out in a heap on the board or platform fixed up in front of the frame hive, and allowed to run in together. 2. Yes, if fed up well at once.

J. W. (Alexandria, N.B.)—Without a sample of the comb and brood we cannot say if it is diseased or not. Probably the bees on bottom edge of comb have suffered from insufficient warmth and nothing more serious.

MOUCH-À-MIEL.—We should only re-queen such of the stocks as are known to have old or failing queens, unless young queens are to be had easily.

CHAS. MARKS (Bristol). — *Overdosing with Naphthaline.*—The result observed by you was undoubtedly due to an overdose of naphthaline. Besides, on no account should powdered naphthaline be scattered over the combs, but administered as directed and in no other way.

L. M. (Herts.)—*Extracting from Brood Nest.*—1. It does not always follow that the bees have ceased breeding because pollen is not seen carried in, or that the queen has stopped laying through being "crowded out." 2. On no account extract from the centre combs of brood nest. If any extracting is done at all from the latter—which we deprecate, except in special cases—the outer combs only should be dealt with.

J. FIELDING SMYTH (Co. Down).—*Simple Cone Clearers.*—Any of the dealers advertising in our pages will supply the simple cones referred to.

J. O. GODFREY (Doncaster).—*Using Salicylic Acid Solution in Bee-food.*—The solution, vinegar, and salt, should be stirred in the syrup when the latter is removed from the fire.

R. AULD (Bath).—*Honey-dew.*—The sample sent is good honey deteriorated in quality by a rather plentiful admixture of honey-dew.

ERRATA.—In reply to Query 620, p. 308, *for* "absorbed" *read* abnormal.

Just published, Crown 8vo., price 1s., post free.

BEES FOR PLEASURE AND PROFIT.

A GUIDE TO THE MANIPULATION OF BEES, THE PRODUCTION OF HONEY, AND THE GENERAL MANAGEMENT OF THE APIARY.

By G. GORDON SAMSON.

LONDON: CROSBY LOCKWOOD & SON, 7 STATIONERS' HALL COURT, E.C.

Berks Bee-keepers' Association

WILL HOLD A

GREAT HONEY AND FLOWER SHOW,

In the Corn Exchange, Reading,

ON WEDNESDAY, SEPTEMBER 14TH, 1892.

SILVER CUPS, SILVER and BRONZE MEDALS, and upwards of £30 in Prizes are offered.

SPECIAL CLASSES.

GREAT NATIONAL HONEY COMPETITION.

The Committee of the Berks Bee-keepers' Association invite Bee-keepers from all parts of the United Kingdom to join in a National Display of HONEY at the above Show.

For the **Best Section of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season :—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

For the **Best Bottle of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season :—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

No other restriction is made as to size and style of Package, which will be taken into consideration by the Judges.

ENTRANCE FREE. The exhibit to become the property of the Show Committee. Entries close Sept. 7th. Schedules and further particulars from the Hon. Secretary, 17 Market Place, Reading.

An Examination for Third Class Experts will be held. Candidates must make application to the Hon. Sec. before September 7th.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Comparisons, as we know, are "ojus," but after the frequent allusions in this column to the Briton's proverbial grumble about the weather, the following excerpt from a leading article in a London morning paper of last week ought—in some measure, at least—to reconcile him to the hardships he has to endure when compared with those of other folks. The article referred to says:—

"The abnormal and continuous heat with which Continental countries have recently been visited, and of which we ourselves have had a moderate taste, ought to satisfy Englishmen — if, indeed, anything would content them with their climate—that they live in a highly favoured portion of the world, and, as far as weather is concerned, have much the best of it. In Italy, in most parts of Germany, in Spain, and even in large tracts of France, the most ordinary summer brings with it successive weeks of torrid heat, during which a large proportion of the population do nothing but wait for the return of a more temperate season. People are fond of talking of sunny climes, cloudless skies, and the delight of knowing for certain that to-morrow will be as brilliant as to-day. But when, by personal experience, one learns what all these dazzling adjectives mean, it turns out that they signify a suspension of existence for some eight or nine hours in the day, and a careful avoidance of the very sun and the very heavens so much belauded. By nine o'clock in the morning the *persiennes* are rigidly closed, and no breath of air from outside is allowed to enter the house. Rooms with a northern aspect are much in demand, and the midday meal can be taken with comfort only if the situation be such that it would make the apartment, in ordinary time, as dark and dank as a cellar. An afternoon siesta sounds very well in a romance; but it is an insufferable thing to an actively constituted Englishman. Yet, in these vaunted latitudes, he has at last to succumb to the native practice, if he is to get through existence with pleasure or ease. About six o'clock, perhaps, you may venture out of doors; and then, no doubt, Nature is more benignant, and offers her worshippers some very delightful moments—that is, always supposing the cicala is not abroad, and winged and crawling things do not call your attention much to yourself. From all these drawbacks to life the denizens of these islands are entirely free."

To bring matters down to the level of us humble bee-keepers we may add a line to say "the delight of knowing for certain that to-morrow will be as brilliant as to-day" would be worth something to our northern friends whose bees are at the "moors," especially if the "to-day" would repeat itself for a fortnight or three weeks to come.

EARLY GRANULATION AND HONEY-DEW.—From reports to hand, it would appear that honey gathered in May and June of this year has been singularly liable to rapid granulation, but that stored later seems to be quite free from this peculiarity. It is hardly worth while to speculate upon the cause which has produced this effect, except to say that it appears to have been due to atmospheric influences prevalent at the time the nectar was secreted in the flowers and stored by the bees. Now, however, comes another, and somewhat general complaint in another direction, from which it appears that a considerable portion of the honey collected during the latter part of July and the past month of August is, in some districts, quite spoiled by its abnormally dark shade. Several of the samples forwarded of both comb and extracted honey almost justify its being called, in the words of the senders, "black honey," so darkis it

in colour. Obviously it is aphidian honey, or honey-dew, and, as such, fit only for bee-food. Up to date of writing, this peculiarity has been notified to us, and samples sent, from Herts, Surrey, Sussex, Gloucester, Somerset, and Oxon. Our own county of Kent, so far as personal observation goes, has escaped, and this is not a little surprising, seeing that fruit-trees—especially plum orchards — are so numerous everywhere. The mischief caused by this damage to the late, or fall, crop of honey is not without a counterbalancing advantage, for it will cause many a brood chamber to have its stores left plentifully supplied for the bees' use, and this will tend to their well-doing in the coming year.

Super-Clearers.—After a thorough trial, we find it advisable to use the form of super-clearer which allows the bees to leave surplus chambers without flying when clearing supers in the late or autumn season. The simple cone affixed to hive roofs cannot be improved upon for use when bees are gathering honey in the fields; at such times there is no confusion caused among the bees, nor is there the slightest attempt at robbing; but when the season is over, and the well-known prowling and thieving propensity of bees is awakened, the American form of clearer has advantages which make it the only one suitable at such times. We have had cases reported where an ill-fitting roof has caused not only an outbreak of robbing, but the loss of the contents of a good super. Hive-makers will, we hope, take the "hint," and in view of the universal use which the super-clearer is sure to obtain, make roofs so that bees cannot possibly effect an entrance beneath them from the outside. We also notice some makers are selling cones too short and squat in shape; they should be wide at the base, about three inches long, and have the aperture at point wide enough to pass out two bees at a time.

Apropos of super-clearers, a correspondent refers to the quotation from an American contemporary which appeared in Mr. Woodley's "Notes by the Way," p. 316, wherein it is told how a transatlantic bee-keeper, by using twenty "Porter" bee-escapes, took 1000 pounds of honey with forty-five minutes' labour. Coming to details, twenty hives were operated upon, and he, single-handed, in the evening removed supers from each averaging fifty pounds in weight, set on the clearers, replaced supers, and covered all up again in fifteen minutes (forty-five seconds per hive). Then, after clearing the honey away in thirty minutes more next morning, he records how his best colony increased in weight 17½ pounds in nine hours! remarking, "How's that?" some would add, "for high?" Whether bees or bee-man have done best, however, is a question. We can only venture to say both must be mighty sharp movers, and that collectively the "Porter bee-escape," the bee-keeper referred to, and the bees of his "best colony" should in the figurative language of America, "take the cake." Anyway, the method of using the super-clearer, as described by Mr. Woodley on p. 338 this week, is more in harmony with British ideas, though we are afraid to say how many times forty-five seconds will be required over each hive to carry it through. Experience will prove to those who try the "banging-about" system—perhaps rendered necessary where time is something, and the lives of a few hundred bees nothing, as it is in America—which is best. For our part, however, we prefer to "make haste slowly" in bee-matters.

Robbing and the Spread of Foul Brood.—At a time when, as we trust, every possible means is being taken to prevent the spread of foul brood, every precaution taken with the view of preventing bees from getting into the habit of "foraging" abroad for supplies—to take the place of food of their own gathering, and of which they have been robbed—is so much done in checking the spread of disease. See, therefore, that they have not to seek at a distance for that which may be supplied to them at home; for there is no doubt that bees which have been well fed up for winter lose the keenness for robbing displayed by hungry bees in the autumn season. In districts where foul-broody stocks are known to be located, one of the greatest difficulties to contend with is the risk of healthy bees bringing home the seeds of disease in honey stolen from neighbouring apiaries. The only protection against this is to keep disinfectants in the hive, and to carefully medicate all food given in feeding up for winter. This done, in addition to the *feeding up early and liberally*, referred to above, the mischief is minimised as much as is possible. We also advise keeping entrances narrowed to very small dimensions, and the free use of carbolic acid about them to keep marauders in check at home.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

We have received particulars of the autumn show of honey to be held in the Waverley Market, Edinburgh, on the 7th and 8th September. So large and comprehensive a schedule of prizes has, we think, never been submitted for competition in Scotland before. It comprises thirty-eight classes for honey only. The total amount competed for comes to nearly 60*l*. The Waverley Market adjoins the railway station, an advantage not to be overlooked by exhibitors from the south, of whom we trust to see a good number represented at the show, and the time for making entries has been extended till Saturday night's post without extra fee.

BERKSHIRE BEE-KEEPERS' ASSOCIATION.

This Association is also showing its enterprise by announcing a big show of honey at Reading on the 14th September. Two silver cups, silver and bronze medals, and upwards of 30*l*. is offered in prizes. The special feature of the show is, however, the National Competition (open to all) for silver cups, silver medals, and bronze medals, for a single section of comb honey and a single one-pound jar of extracted honey. In these classes no entry fee is charged. For full particulars see advertisement on another page.

BRISTOL BEE-KEEPERS' ASSOCIATION.

We are requested to say that the Secretary of the above Association, Mr. J. Brown, who hopes to spend September in the North of Ireland and Scotland, would thank members to defer writing until his return; but in the event of an urgent reply, the expert, Mr. John Martin, Cannon Street, Bedminster, Bristol, will respond if letters are addressed direct to him.

BLANKNEY HORTICULTURAL SHOW.

The fourth Floral and Horticultural Exhibition took place at Blankney on Wednesday, the 3rd ult., fine weather adding materially to the attractiveness of the proceedings, as well as the comfort of the 10,000 visitors who thronged the beautiful grounds of the Right Hon. H. Chaplin, M.P., from midday until 10 p.m. Lectures on "modern bee-keeping and the manipulation of live bees" were given by Mr. H. O. Smith, of Louth, under the auspices of the Lincs B. K. A., and the Hon. Secretary, Mr. R. Godson, is to be congratulated upon the success of his efforts in the bee and honey department. Mr. Robert Thorpe officiated as judge, and made the following

AWARDS.

Best stock of English bees in observatory hive.—1st prize, J. Emerson; 2nd, J. Pell; 3rd, R. Godson.

Best twelve 1-lb. sections.—1st, R. Godson; 2nd, T. Sutton; 3rd, J. Emerson; 4th, J. Emerson.

Best twelve pounds of extracted honey.—1st, T. Lowth; 3rd, J. Emerson; 4th, G. Godson.

Best six 1-lb. sections (cottagers only).—1st, J. Coulson; 2nd, J. Pell.

Best six pounds extracted honey (cottagers only).—1st, J. Pell; 2nd, J. Coulson.

Best English beeswax.—1st, W. J. Farrell; 2nd, J. Emerson; 3rd, Mrs. F. Emerson.

HONEY AND FLOWER SHOW AT SEVENOAKS.

The flower show on August 10th was held, by kind permission of Earl Sackville, in the magnificent park and grounds of Knole. The weather was fine and the attendance unusually large. A sight of Knole grounds is a treat of no ordinary kind; probably there is nothing to equal them in the county. Historic memories render the place doubly interesting. The Kent Bee-keepers' Association bee-tent was on the ground. Lectures and bee-driving, by Mr. Roland Green, at 3.30, 4.30, and 5.30, attracted large numbers. The Association exhibited an observatory hive; Mr. Durrant staged another. The honey exhibited surpassed that of previous years both in quantity and quality. Had there been three classes instead of only one (sections) for amateurs there would have been three times the quantity there. The Flower Show Committee will probably offer greater inducements another year. Mr. Roland Green adjudged the prizes as under:—

Class 82 (Amateurs), 12 sections.—1st, Mr. Durrant, Sevenoaks; 2nd, Mr. C. Sutton, Chevening; 3rd, Miss Wood, Kingsdown.

Class 19 (Cottagers), Best Super.—1st, W. Seale, Chevening; 2nd, R. Fredericks, Sevenoaks; 3rd, D. H. Parker, Sundridge.

Class 20, Extracted Honey (Cottagers).—1st, G. Stemp, Ide Hill; 2nd, F. Clifton; 3rd, C. Hall, Sundridge.

Class 21, Beeswax.—1st, S. Huntley; 2nd, W. Heasman, Ightham.

Bee-keeping in and around Sevenoaks is evidently on the increase. The neighbourhood is favourable for the industry. The K. B. K. A. would do well to hold their next county show in Sevenoaks.

BEE AND HONEY SHOW AT BANBRIDGE, CO. DOWN.

At the Banbridge Farming Society's Show, which was held on the 2nd August, there was, as usual, a special honey, bee, and hive department, in connexion with which the Ulster Bee-keepers' Association again offered several prizes.

The duties of judges were discharged by the Rev. H. W. Lett, Aghaderg Glebe, Loughbrickland, and Mr. Paul McHenry, Annsboro', Castlewellan. There were forty entries in the six classes, and in several there was keen compe-

tition, the merits of the exhibits being very close.

It may be allowed, in describing this show, to pay a tribute to the memory of a devoted co. Down bee-keeper, by mentioning Mr. Samuel Hill, late of Solitude House, Banbridge, whose death took place last winter. Mr. Hill was the first person in his neighbourhood to adopt the frame hive, and it is owing to his example and advice and assistance, all of which were freely and courteously given at all times, that the pursuit has so many ardent disciples in West Down.

The following is the prize list:—

Best stock or specimen of bees in observatory hive.—No first; 2nd, J. D. M'Nally, Lawrencetown.

Best super, non-sectional.—1st, J. D. M'Nally; 2nd, W. G. W. Flynn, Banford, Gilford.

Best twelve 1-lb. sections.—1st, J. Potts, Cappagh, Corbett, Banbridge; 2nd, H. Price, Ballycastle.

Best six 1-lb. sections.—1st, H. Price; 2nd, J. Potts; commended, A. Andrews, Banbridge.

Best twelve 1-lb. jars extracted honey.—1st, J. Potts; 2nd, W. Mulligan, Rathfriland.

Best six jars extracted honey.—1st, H. Price; 2nd, W. G. W. Flynn.

Best bar-frame hive.—1st, A. Coates, Lawrencetown; 2nd, J. D. M'Nally.

Ornamental design in honey-comb.—Extra prize, J. D. M'Nally.

The room in the Courthouse which was devoted to honey was crowded during the whole time the showyards were open, and very great interest was taken in all the exhibits.

WILTS BEE-KEEPERS' ASSOCIATION.

As last year, at the invitation of the Horticultural Association, the county show was held at Swindon on August 17th, and proved the most successful that has been held for some years past. The weather was perfect, and the attendance large, the show of honey being excellent in quality, and, considering the season, good as to quantity. The funds did not admit of prizes being offered for appliances, but Mr. S. W. Filtness, the energetic District Secretary, staged a large and useful collection from some of the leading manufacturers, also a quantity of confectionary made from honey.

The Judge appointed by the B.B.K.A. was our old friend, Mr. W. N. Griffin, who, with the Rev. C. W. Honey, greatly assisted the Hon. Secretary and Expert in giving hints on bee-matters. L. Etty, Esq., and Mr. S. W. Filtness kindly provided skeps and a well-stocked bar-frame hive for manipulation in the bee-tent, where the expert, Mr. Burkitt, was busily engaged till dusk.

List of Prizes.

Members Only.—Best collection of honey from one apiary: 1st, J. Wentworth; 2nd, S. W. Filtness; 3rd, J. E. Whatley. Best twelve pounds of honey in sections: 1st, E. R. C. White; 2nd, W. E. Burkitt. Best six pounds of honey in sections: 1st, J. E. Whatley; 2nd, W. E. Burkitt; 3rd, S. W. Filtness. Best six pounds of extracted honey in bottles: 1st, S. W. Filtness; 2nd, E. R. C. White; 3rd, W. E. Burkitt. Best twelve 1-lb. bottles of honey: 1st, S. W. Filtness; 2nd, W. E. Burkitt; 3rd, W. G. Kight.

Cottagers Only.—Best four 1-lb. sections of honey, and four 1-lb. bottles of ditto: 1st, G. Newport; 2nd, J. Bennett. Best six pounds of honey in sections: 1st, J. Bennett; 2nd, G. Newport. Best six 1-lb. bottles of honey: 1st, G. Newport; 2nd, J. Bennett.

Open Classes.—Best six pounds of honey in sections, six 1-lb. bottles of honey, and a non-sectional super of any kind: 1st, W. E. Burkitt; 2nd, J. E. Whatley. Best twenty-four 1-lb. sections: 1st, J. E. Whatley; no 2nd or 3rd awarded. Best twenty-four pounds extracted honey: 1st, S. W. Filtness; no 2nd or 3rd. Best observatory hive stocked with bees: 1st, W. E. Burkitt; 2nd, S. W. Filtness.

GOOLE AND DISTRICT B.K.A.

The fourth annual show of this Society was held on August 11th, in beautiful weather, and, considering the unfavourable bee-weather experienced in the north, the show of honey was highly creditable.

We would suggest to the Committee the desirability of increasing the prize-money, so that bee-keepers living at a distance will be induced to exhibit.

Mr. W. Dixon, of Leeds, officiated as judge.

Prize List.

Open Classes.

Observatory hive, stocked.—1st, W. Chester, Goole; 2nd, A. Woodhead, Goole.

Twelve 1-lb. sections.—1st, G. Remmer, Knedlington.

Twelve 1-lb. bottles of extracted honey.—G. Remmer; 2nd, Rev. R. M. Lamb, Burton Pidsea; special, W. Chester.

Most interesting exhibit connected with apiculture.—1st, W. Chester; 2nd, A. Woodhead.

Members Only.

Six 1-lb. sections.—1st, G. Remmer; 2nd, E. Wainman, Saltmarshe.

Six 1-lb. bottles of extracted honey.—1st, J. Speak, Rawcliffe; 2nd, W. Ramsey, Rawcliffe; special, G. Remmer.

Super of comb honey.—1st, W. Chester.

One 1-lb. section and one 1-lb. bottle of extracted honey.—1st, G. Remmer.

LEICESTERSHIRE BEE-KEEPERS' ASSOCIATION.

The Leicestershire Bee-keepers' Association held their fifth annual show, in connexion with the Abbey Park Flower Show, on Tuesday, August 2nd. The exhibits were judged by Mr. Ingram, of Belvoir; Mr. J. Langsdell, The Gardens, Barkley Hall; and Mr. H. M. Riley,

Tower House, Leicester; and the prizes were awarded as follows:—Run honey, in 1-lb. jars: 1st prize, W. P. Meadows, Syston; 2nd, W. W. Faulkner, Market Harborough. Best twelve sections: 1st, W. P. Meadows; 2nd, J. W. Bickley, Melton. Best collection of this season's honey: 1st, J. W. Bickley; 2nd, W. P. Meadows; special prize, F. A. Parry, Syston. At intervals during the day manipulations with live bees and lectures on bee-culture were given in the bee-tent by the Hon. Secretary (Mr. H. M. Riley) and an expert. Crowds gathered round the tent at these times, and were amply repaid for their trouble. So great was the interest that the tent was completely pushed over. One of the chief attractions was the manipulating competition for the member who, in the quickest, neatest, and smartest manner manipulated a frame hive, the prizes being awarded to Mr. T. C. Clarke, Leicester; and Mr. Faulkner, Market Harborough. A bar-frame hive, stocked with bees, was drawn for by the members of the Association, and fell to the lot of Mr. S. Partridge, Shangton.

STAFFORDSHIRE BEE-KEEPERS' ASSOCIATION.

The annual exhibition of the S.B.K.A. was held in connexion with the show of the Staffordshire Agricultural Society, at Stafford, on August 23rd and 24th. The principal classes were well filled, many of the exhibits being of excellent quality. The extracted honey was especially good, but the comb honey was not quite so fine. The arrangements were efficiently carried out by the Hon. Sec., the Rev. A. R. Alsop. The honey tent certainly presented a fine appearance, bottles and sections being staged in a good light, and the trophies were placed upon a separate table, thus showing off all exhibits to the best advantage. Mr. Jno. Palmer, of Ludlow, officiated as judge.

In the trophy class, the first and second prize exhibits were tastefully arranged, and both comb and extracted honey of fine quality were staged; the third and fourth prize-winners staged no comb honey, though a good display of extracted was made. The keenest contest in the show was in the class for twelve bottles of extracted honey, all the winning exhibits being of splendid quality and flavour.

Considering the high position of the Staffordshire Association, the addition of "open classes" to any future schedule deserves the attention of the Committee, while the keen competition in the extracted honey classes seems to point to the usefulness of, and demand for, a special class for "dark honey."

Prize List.

Honey trophy.—1st, Hy. Wood, Paradise, Lichfield; 2nd, Elihu Clowes, Black Brook, Newcastle; 3rd, A. W. Rollins, Stourbridge; 4th, E. E. Crisp, The Hough, Stafford.

Twelve 1-lb. sections.—1st, E. Clowes; 2nd, H. Wood; 3rd, Mrs. S. Richards, Oaken, Wolverhampton; 4th, E. E. Crisp.

Twelve 1-lb. jars extracted honey.—1st, J. H. Collier, Stafford; 2nd, H. Wood; 3rd, J. Hancock, Alsager; 4th, Wm. Williams, Lichfield; H. C., — Stendall, Penkridge.

Six 1-lb. sections.—1st, H. Wood; 2nd, — Pellington, Stafford; 3rd, Mrs. Smith, Lichfield; H. C., E. Clowes.

Observatory hive, with bees.—1st,—Critchlow, Newcastle; 2nd, E. E. Crisp; 3rd, E. Clowes.

Design in comb honey.—1st, — Critchlow; 2nd, — Pellington; H. C., E. Clowes.

One 1-lb. section and one 1-lb. bottle.—1st, H. Wood; 2nd, — Stendall; 3rd, E. Clowes; H. C., A. Simpson, Lichfield.

Beeswax.—1st, A. Simpson; 2nd, H. Wood; 3rd, E. Clowes; H. C., — Bailey, Whitmore, Newcastle.

Comb honey in any form (labourers only).—1st, — Bailey.

Extracted honey, not exceeding 20 lbs. (labourers only).—1st, J. H. Collier; 2nd, — Middleton, Stafford; 3rd, — Bailey.

Super of comb honey.—1st, E. Clowes.

Six pounds granulated honey.—1st, S. B. Fox, Maer, Newcastle; 2nd, E. E. Crisp.

Collection of hives and appliances.—1st, W. P. Meadows, Syston.

GLOUCESTER BEE-KEEPERS' ASSOCIATION.

The annual show of honey was held in Gloucester on Thursday, July 28th, in connexion with the St. Luke's flower show. There were a good many exhibits cousidering the season has been poor in the neighbourhood. The honey was tastefully arranged, being much set off by flowers, and it is thought the exhibition was one of the prettiest there has been in the district. The judging was kindly undertaken by Mr. J. Hutchinson of Cheltenham, who awarded the prizes as under:—

Best collection of honey.—1st, G. Morse, Hardwick.

Best twelve bottles of extracted honey.—1st, O. Knight, Epney; 2nd, N. J. Robinson, Gloucester; 3rd, J. Lambrick, Chaxhill; h. com., T. Dadge, Hempstead; A. Jones, Gloucester.

Best twelve 1-lb. sections.—1st, G. Morse; 2nd, A. Jones; 3rd, G. Lloyd Baker.

Best six 1-lb. sections.—1st, Mrs. Hewlett, Barnwood; 2nd, G. Lloyd Baker; h. com., G. Morse; com., Miss Marden, Upton St. Leonards.

Best six 1-lb. bottles of extracted honey.—1st, O. Knight; 2nd, — Teagle, Gloucester; 3rd, Rev. G. E. Jarvis, Stonehouse.

Best collection (open class).—1st, G. Gunston, Wotton-under-Edge; 2nd, A. Jones.

Best twelve 1-lb. sections (open classes).—1st, Geo. Thorne, Newnham; 2nd, Miss Till, Wotton-under-Edge; 3rd, G. Gunston.

Best twelve 1-lb. bottles of extracted honey.—1st, Evan Lewis, Stroud; 2nd, C. W. Workman, Wotton-under-Edge; 3rd, G. Gunston.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1130.] We are having a spell of summer weather suitable for the farmer for the ingathering of the crops and a help to the bee-keeper, as the bees are gathering a living, if nothing beyond for winter store. The principal sources of honey we have now are wild mustard or charlock, as it is called, late vetches, and a sprinkling of white clover and the second crop of red clover, on which I noticed bees working.

Super-clearers again! Mr. Flood, of Reading, a few weeks back sent me, to order, some more clearers, this time fitted with "Porter's bee-escape," and they are simply perfection; time after time, and not a single bee left in the super the next morning. There is no robbing or fighting, or disturbance of the apiary when taking off the surplus honey, where the clearers are used. I wrote of their usefulness last year; then they (the clearers) were made from a design of my own adapted from an American idea, and the escape was a central hole with four horizontal, cone-shaped exits for the bees to reach the hive through the clearer, and proved fairly successful, clearing the supers sometimes of every bee; but with very populous colonies a good few bees would remain in the super. Now with these Porter spring-escape clearers the bees, when once they have passed the spring, cannot return. It acts like a turnstile without the click. The bees pass from the super into the hive direct; no worrying bees trying every crevice to gain an entrance to help themselves to their neighbours' stores, as is the case with cone clearers when fitted to the roofs of hives, and the crates of honey left uncovered for the imprisoned bees to make their exit *viâ* the cone in the roof. These cones have only one thing in their favour, and that is cheapness, compared to the properly made clearer through which the bees descend to the brood nest direct without any indication to the other bees that anything unusual is going on; and again a great point in their favour is they are in use during the night, whereas the cones are in use during the day. What the consequences would be in a large apiary I do not care to contemplate; but unless I was at hand to quell any disturbance I should expect to lose enough stocks from robbing in one season to buy real clearers that would last a lifetime. How do I use them, do I hear some one say? Well, thusly:—I take a square of unbleached calico, and dip it in diluted carbolic acid, say one ounce of acid to a pint of warm water; then wring it as dry as possible. Now place a box or stool at the side of the hive from which your crate of sections is ready for removal; place your clearer, which is made the size of a crate holding twenty-one sections; then remove all the wraps of crate except the carpet cover with screwdriver or strong table-knife, prise up the crate to loosen it; do this as quietly as possible. Now shake out your carbolised cloth, and allow the wet cloth to cover the frames of brood nest or super under the one you are removing. This cloth should be spread by the same action that removes the crate of sections; the cloth keeps every bee below, and your crate of sections is simply placed on the clearer, the clearers having strips of wood around the sides that prevent any bees being crushed. Then quickly take off the cloth, and replace your crate and clearer over the brood nest. Do this job in the evening, and next morning early you can remove the honey to the house free from bees, and your clearer can be removed from the hive with the aid of the carbolised cloth, the few adhering bees on the underside of the clearer shaken off in front of hive, and the job is done without smoker, veil, or stings.

This super-clearing is a great point gained, and another one that demands attention is self-hivers; when this difficulty has been overcome the two worst features will have been eliminated from bee-keeping, and the owner of a few hives of bees will feel that he can control his own stock without the constant watching required at present, with possible unfriendly feelings of neighbours who would not care for the owner to go on their premises to hive the swarms.

Now, friend J. D. M'Nally, does the Berks Bee-keepers' Honey Show as per advertisement in *B. J.* meet your wishes and approval? Why I should think exhibits will come from all quarters. No entry fees!!! Of the many schedules I have ever received, none, so far as I remember, offered such terms to exhibitors—simply a bottle or section of honey and in return a silver cup or medal; though it lacks yet one thing: there is nothing in the schedule that indicates that the "Championship of England" is vested in the cups offered for the best section or bottle; that distinction must be still sought for farther north in the kingdom.—W. WOODLEY, *World's End, Newbury.*

ANTISEPTIC QUILTS.

[1131.] I enclose a sample of what must be the "antiseptic quilt" described by friend Abbott (1073, p. 264). Its commercial name is "Latus" felt, and it is manufactured by the Boulinikon Felt Company. I have used this felt for years in connexion with buildings and bees, and have supplied it to not a few bee-keepers for the same purposes, and no doubt

it is to be had at other appliance dealers. I have just been into my apiary and examined some of this felt which has been in use here for seven years; the weather having done its work to that used for roofs, it is an easy matter to dissect. Fibre there is in it, but texture none. The firm who make "Latus" felt also manufacture other felts from the hair and wool of animals, and "Latus" felt is, I fancy, a composition of refuse material that will not keep its place in texture. This refuse is mixed with tar and tar product, and after being run into sheets, such sheets are subject to hydraulic pressure, which makes them firm and hard, so that when cut they resemble vulcanite on the cut edge. "Latus," as well as other tar felts, is certainly heat-absorbing, but if used on beehives and allowed to become a chilling medium, as suggested in 1107, p. 295, the user is at fault in not giving other protection to conserve the heat.

A hive fitted internally with "Latus" felt would give that antiseptic hive one correspondent asked for in a recent issue, and as a winter domicile for established colonies (I find swarms will not commence work in such a hive) cold as well as foul-brood germs would be banished.—JOHN H. HOWARD, *The Model Apiary, Holme.*

[The material forwarded is similar to that sent by Mr. Abbott.—EDS.]

ONE *VERSUS* TWO QUEENS IN A HIVE.

[1132.] In *B. B. J.* for August 18th (1119, p. 318) "W. J. S." is desirous that I should give the results of my bee-doings this year in working two queens in one hive. As soon as I get time to clear up and cast up accounts for the season I intend to publish results, not only of working two queens, but also of working with one queen in a hive. The latter may seem strange to some after what I stated some time back, when I gave my decision that one queen only in a hive was a thing of the past with me; but, in arriving at this decision, I may be allowed to explain that, having had many bee-keeping friends visit my apiary, some of these experienced friends thought that the same results might be obtained if each queen had a hive to itself. This, however, was far from my experience, but to make the subject as clear as possible to others I decided early in June to sacrifice one queen from each of five hives, and work through the honey season with one half of my stocks one queen only, and the other five with two queens in each, carefully noting the results. Some of my visitors suggested that one hive on the single queen plan would be a sufficiently good test, but I thought otherwise; and, as the subject was an important one for bee-keepers, I determined to settle the matter beyond dispute in the way proposed, and give each plan an exactly equal chance, by working one half one way and the other half the other way. This I thought would make it as plain as it is possible for me to do. I have already got strong nuclei with young queens to add to those which have but the one queen, and also to replace the old queens which have worked two full seasons. In due time you shall have full details.—G. WELLS, *Aylesford, Kent.*

USING THE SIMPLE CONE CLEARER.

[1133.] My first attempt at using cone clearers resulted as follows:—After fixing cones over the ventilating holes in a hive roof on the 9th ult., I lifted off the super crate, which I got a friend to hold whilst I placed over the frames a quilt. I then replaced the crate, and removed the covering from the top of sections. The bees began to make exeunt, though very slowly; but this, I found, arose from my not having covered up the holes in opposite side of roof. These I at once stopped up, after which the bees came out very freely, making their exit at the average speed of eighty-seven per minute. The crate, holding forty sections was cleared of bees in one and a half hours.—PERCY LEIGH. *Stoke Prior, August 25th.*

WEATHER REPORT.

EARL SHILTON, LEICESTERSHIRE.

July, 1892.

Maximum temp. 2nd and 3rd	90°
Minimum „ 13th, 19th, and 21st	42°
Mean max. „ 3rd	76°
„ min. „ 13th	51·3°
„ temperature	60·61°
Rainfall	2·21 in.
Highest rainfall in 24 hrs., 27th ..	0·56 „
Rain on	10 days.
Prevailing wind	N.E.

W. S. FULSHAW.

Queries and Replies.

[632.] *Removing Sections from Skep.*—I have a swarm in skep, with a box-top over it, in which twenty-four sections are fitted, and ten of the sections contain sealed honey, which I tried to remove yesterday, but it seemed to excite the bees so, and having a rather severe sting on the thumb, I came to the conclusion that the honey might wait till I had asked your valuable advice regarding the best means for its removal. I could manage it well enough were the sections in a crate, but being separately placed in the box, I find it very awkward, as they have to be removed one at a time. Moreover, they are firmly stuck to the bottom of the box with wax or propolis. What should you advise me to do? I shall be very glad of your assistance.—L. C. WYLDE GREEN, *Warwickshire.*

REPLY.—Without having a sight of the "box-top" it is not easy to advise you as to the removal of the sections. Could not the box and sections be lifted off *en bloc* and taken some distance from the hive for sorting out the full ones? Otherwise, the bees must be driven down and kept down by smoke while the sections are being manipulated. An assistant would be useful during the operation.

[633.] *Taking Foul-broody Stocks to the Moors.*—Will you kindly tell me whether it would be safe to take infected stocks to the moors where other bees are? I have seven at the moors now and six at home, and purposed taking the latter next week, but on examination to-day I found four infected with foul brood. I may say there are other people's bees there besides my own.—MOORMAN.

REPLY.—It would be unwise and exceedingly unjust to take foul-broody stocks of bees to the moors, where they could so easily spread the disease among the healthy hives located there. On the other hand, if you get all the healthy stocks away to the moors, it will afford an excellent opportunity for dealing with the infected ones left behind.

[634.] *Preparing Heather Honey for Sale.*—In thanking you for your useful answers to my last, may I now ask—1. What is the most profitable way to deal with heather honey in comb? 2. At end of the heather season, should I take out combs from the body of hive, as I presume there will be little or no brood left in them, press out the honey, and send the wax to be made into foundation—of course, giving the bees frames of foundation and feeding out? 3. How does a honey press act? 4. Next season I propose, if advisable, having the end frames separated by excluder diaphragm, and getting the bees to draw out a number of spare combs from foundation for use during the heather season. At the proper time I will put in these drawn-out combs behind the diaphragms to get filled, adding fresh ones as I withdraw them. I think this would answer better than sections, as they seem to work better downstairs than up. What do you think? 5. Could I use super foundation in such frames, and how could I act so as to get them sealed?—YOUNG BEE, *Rothbury.*

REPLY.—1. Heather honey if stored in virgin comb should be sold for table use in the comb as removed from the hive. Any not good enough for use in that way is extracted by means of a press. 2. To proceed as proposed would be about as unprofitable a plan as could well be imagined. If the body of the hive contains only ten standard frames, no honey at all should be taken from any but the outer comb on each side of the hive entrance, and from these only in case the other eight are well supplied with food for the bees' use. You will save time, trouble, and money, besides contributing to the health of the bees, by leaving the body of hive or brood chamber as nearly alone as possible, beyond what is referred to above. 3. By means of pressure from a powerful screw the honey is freed from the combs. 4. If section racks are properly prepared and kept warm, the bees will work in them better than as you propose. 5. Super foundation is not strong enough to use in full sheets in standard size frames. Heather honey is best prepared for sale in one or two-pound sections, and next to these in shallow frames.

[635.] *Width of Hive Entrances in Winter.*—Many thanks for your replies to my queries anent 'Removing crate,' &c. I followed your advice with success. Now that robbing is likely to occur, will you please tell me—1. What distance to leave the bee-entrance open in frame hives? 2. When shall I widen the entrance again, and how wide? (I use impervious quilts.) 3. How wide should the entrance be now to my straw skeps? 4. Shall I leave the openings contracted until spring? 5. Is 1*s.* per pound a fair price (retail) for honey this season?—PERCY LEIGH, *Bromsgrove.*

REPLY.—1. If signs of robbing are seen, reduce to one inch or less. 2. After all is quiet, entrance for the season may be opened to eight or ten inches when impervious coverings to frames are used, reducing at times to keep out very cold winds. 3. Use the same principle as with frame hives. 4. When breeding begins in spring entrances should be narrowed. 5. Yes.

MORE AMERICAN OPINION ON SO-CALLED PUNIC BEES.

"LOOK OUT FOR WRECKERS."

While I have favoured importation of bees in the hope and expectation of improving the honey-gathering qualities, as well as other desirable qualities, in bees, I have not failed to call attention to the dangers that may be concealed behind so laudable an enterprise. It would be a serious thing to have inferior bees mixed into our present fairly good stock of bees. I now see more danger in this direction than at any time heretofore. I begin to dread the little black race from Africa. Doubtless these little inky insects have already been sent out to many localities in this prolific land, and they will become mixed up with our native bees, wherein lies the greatest danger, because it would be nearly impossible to detect the mixture by any fixed rule. The yellow bands of the yellow races will enable the apiarist, who keeps wide awake to his interest, to weed out the black blood. But he must pay tribute to whom tribute is not due, in watchfulness and hard work, to do it. Last season I procured a "Punic" queen in time to rear bees to pass the winter. The "Punics" were as strong as the average colony when the spring opened. I was disappointed to find that my colony of Punics were not "solid inky black," but were black

with faint stripes of lighter colour around the segments of the abdomen, exactly like our native bees, though less conspicuous. I pointed them out to all visiting bee-men, to get their impression of them, and they all agreed in the remark that the Punics looked too much like the very small black native bees to be readily distinguished from them; and our bee-fancier said that they looked like the "tag-end" of all the black bees. I was further disappointed in that, that we have been told that this new race is more gentle than other bees, when, in fact, my colony was the most unmanageable of all the types of bees that I have handled. When the tops of the frames were made bare, the little black imps would immediately boil up and cover the entire tops of the frames and rim of the hive, until there was no room to touch a frame for the bees. When driven down with smoke, they would rise up immediately worse than before. This trait indicates that these bees are great robbers in their ancestral land. They run over the combs like common black bees, take wing, and go wild when you attempt to handle the frames. In fact, this colony could only be handled by simply "wading through them," in spite of their frantic capers. The end of the matter was, I broke them up.—G. W. Demaree, *in the "Bee-keepers' Guide"* (*Am.*)

Bee Shows to Come.

Sept. 6th.—Notts B.K.A. annual show at Moorgreen — bees, hives, and honey. Honey classes confined to Notts only. Entries closed. A. G. Pugh, Secretary, Mona Street, Beeston.

Sept. 7th.—Annual Honey Show and Fair of the Herefordshire B.K.A. in the Butter Market, Hereford. Consignments of honey for sale solicited. For schedules apply Mr. Joseph Thomas, 41 Eign Street, Hereford. Entries close September 3rd.

Sept. 7th and 8th.—Derbyshire B.K.A. at Derby. Entries close September 3rd. Secretary, W. T. Atkins, 12 North Street, Derby.

Sept. 7th and 8th.—Scottish Bee-keepers' Association Autumn show, in connexion with that of the Caledonian Horticultural Society, in the Waverley Market, Edinburgh. 45*l.* in prizes for honey. John Wishart, Secretary, S.B.K.A., 5 Market Place, Melrose.

Sept. 10th.—Bee and Honey Show at Bramall Hall, Stockport. Entries closed. William Slater, Secretary, Fern Lea, Bramhall, Stockport.

Sept. 17th.—Great Honey Show of the Berkshire Bee-keepers' Association at Reading. Silver cups and medals, bronze medals, and over 30*l.* offered in prizes. No entry fee for the National Competition for a single section and a single one-pound jar of extracted honey. Entries close September 7th. For schedules apply to Hon. Sec. Berks B.K.A., 17 Market Place, Reading.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

OUR LIBRARY TABLE.

Bees for Pleasure and Profit. By G. Gordon Samson. (London: Crosby Lockwood & Son.)—This little handbook is intended as a guide to the manipulation of bees, the production of honey, and the general management of the apiary. The author, in the preface, tells us that where there are several ways of performing the same operation, he had detailed the one his experience had proved the best, and in those cases in which his own experience does not lead him to speak with confidence and certainty, he has based his conclusions from the most reliable sources of the best-known writers. The author describes an ordinary frame hive, but illustrates an entrance now rarely used, and one that has been given up by practical bee-keepers. There is useful practical information, chiefly compiled from well-known works. The illustrations are mostly taken from Mr. Blow's catalogue, and as such duly acknowledged, although some of them—such, for instances, as Figs. 27, 29, 31B, 37B—are taken from Cowan's *Guide-book*, without, however, any acknowledgment at all. Fig. 8 is not a correct representation of a broad-shouldered frame, and would mislead any one ntending to make one from the illustration. The author has also briefly touched upon the relation of apiculture to horticulture and agriculture, bees being most important in fertilising bloom; but we cannot agree in all he says about this, as it is so contrary to well-known facts. We, however, entirely agree with the author when he says, "I am convinced that, as soon as bee-keepers and fruit-farmers begin to recognise importance of the one industry in relation to the other, more prosperous times will be in store for each, and we shall not only hear of better fruit harvests, but of larger returns of honey also." The book is neatly got up in a red cover, and well printed, but the drawings of bees on page 2 are, to say the least, defective.

Conduite du Rucher. Par Ed. Bertrand. (Published by R. Burkhard, Geneva. 2 frs. 50 c.)—This is a new edition (the seventh) of this popular handbook, which has been deservedly taken up by the French-speaking bee-keepers of Europe. There has, perhaps, been no bee-book in the French language that has ever attained such a sale, as this edition is the fourteenth thousand, and we hope it will continue its useful mission for many a long year. The opponents of modern methods have

for so long held sway in France, that it is quite refreshing to find a handbook like this making such headway. The work has been thoroughly revised so as to bring it up to the times, and we are pleased to see the chapter headed "Conduite d'un Rucher isolé" replaced by "Cinq Années d'Exploitation d'un Rucher," as being more in accordance with modern advancements. This book should be in the hand of every bee-keeper knowing the French language.

Ptschelovodstro, by A. de Zoubareff, published in St. Petersburg.—This is a secoud, and enlarged edition of a handbook on bee-keeping by this eminent Russian bee-keeper, who has done so much for bee-keeping in Russia. It will be remembered that M. de Zoubareff translated Cowan's *Guide-book* into Russian, and it is, therefore, not surprising to find a good many of the illustrations from that book also in this work. There are, however, a good many original illustrations prepared for this work, and M. Zoubareff has brought it up to the knowledge of the present day, as suited to bee-keeping in Russia. It is pleasing to find that bee-keeping is progressing in that country, and we hope there may be many a peasant made the happier and more prosperous for the bees he keeps. On page 123 the author describes and illustrates an improvement on the Cowan Automatic Extracter, by which simplification the combs may be reversed by hand. We welcome this addition to the bee-literature of the day, as a sign of the progress of the industry in Russia.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

F. D. Thomas (Mallow).—*Putting Sections on Skep in August.*—It is altogether too late in the season to put on a rack of sections with any chance of them being filled.

C. J. T. (Newport).—1. The only way to ascertain when honey is sealed over is to examine the comb. 2. Do you refer to "surplus honey," *i.e.*, that stored above the brood nest? If so, it should be taken at once.

Just published, Crown 8vo., price 1s., post free.

BEES FOR PLEASURE AND PROFIT.

A GUIDE TO THE MANIPULATION OF BEES, THE PRODUCTION OF HONEY, AND THE GENERAL MANAGEMENT OF THE APIARY.

By G. GORDON SAMSON.

London: CROSBY LOCKWOOD & SON,
7 Stationers' Hall Court, E.C.

Berks Bee-keepers' Association

WILL HOLD A

GREAT HONEY AND FLOWER SHOW,

In the Corn Exchange, Reading,

On WEDNESDAY, SEPTEMBER 14th, 1892.

SILVER CUPS, SILVER and BRONZE MEDALS, and upwards of £30 in Prizes are offered.

SPECIAL CLASSES.

GREAT NATIONAL HONEY COMPETITION.

The Committee of the Berks Bee-keepers' Association invite Bee-keepers from all parts of the United Kingdom to join in a National Display of HONEY at the above Show.

For the **Best Section of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season :—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

For the **Best Bottle of Honey** (not less than 1 lb.) being gathered by the exhibitor's own bees during the present season :—

1st Prize, Silver Cup; 2nd Do., Silver Medal; 3rd Do., Bronze Medal.

No other restriction is made as to size and style of Package, which will be taken into consideration by the Judges.

ENTRANCE FREE. The exhibit to become the property of the Show Committee. Entries close Sept. 7th. Schedules and further particulars from the Hon. Secretary, 17 Market Place, Reading.

An Examination for Third Class Experts will be held. Candidates must make application to the Hon. Sec. before September 7th.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

CO-OPERATORS AT THE CRYSTAL PALACE.

The fifth annual Co-operative Festival took place at the Crystal Palace on Saturday, August 20th, and was again a pronounced success. The day was beautifully fine, allowing the 40,000 or so of Co-operators and their friends to come and go in comfort, and to thoroughly enjoy themselves outside and within the enormous building all the day long. As an adjunct to the show of horticulture and flowers, the honey department —in which our readers will take most interest— was well filled, and altogether a very excellent display indeed. Not one bit did the restriction of the exhibits to "members of co-operative societies only" interfere with the excellence of the honey shown, or the capital manner in which it was staged. In fact, it would have been impossible to detect any difference between it and a show open to the whole of the United Kingdom so far as the quality of the produce went. Where such general all-round excellence was seen, we may be spared from singling out any for special mention. Both comb and extracted honey—the latter especially—was good, and put up in good form for sale purposes. The class for named collection of bee-flowers was also a very good one.

A very marked improvement in the honey display was made this year by staging the exhibits in the well-known form advocated by the B. B. K. A., by means of which the good points of the honey shown are visible to every onlooker; it also assists very much in adjudicating the prizes. We congratulate the managers of the show on this change, and trust the tiering form of displaying the honey will be permanently adopted.

Mr. J. M. Hooker and Mr. W. Broughton Carr, who officiated as judges, made the following awards:—

Best exhibit of comb honey.—1st, S. Bailey, Horsham; 2nd, J. Withycombe, Bridgwater; 3rd, F. Tunbridge, Chelmsford; h. c., A. Tunbridge, Chelmsford; c., C. Fielder, Penge. Best exhibit of honey in sections and glass jars.—1st, W. Debnam, Penge; 2nd, T. Badcock, Gravesend; 3rd, J. Withycombe; 4th, S. Bailey; h. c., A. Jones, Gloucester, and H. W. Seymour, Reading; c., T. Duncan, Horsham. Twelve 1-lb. sections.—1st, F. Tunbridge; 2nd, J. Withycombe; 3rd, J. C. Hill, Braintree; 4th, S. Bailey; h. c., T. Badcock, H. W. Seymour, and A. Hamer, Dolan; c., H. Kerridge, Ipswich, and E. J. Ridge. Twelve 1-lb. jars of extracted honey.—1st, H. W. Seymour; 2nd, G. C. Hill; 3rd, A. Hamer; 4th, J. Adams, West Haddon; h. c., H. Kerridge, T. Gulliver (Leighton Buzzard), E. J. Ridge, and W. Debnam; c., C. Fielder, Penge. Twelve 1-lb. bottles of granulated honey.—1st, H. W. Seymour; 2nd, T. Duncan; 3rd, E. J. Ridge; 4th, S. Bailey; h. c., J. Adams. Bees wax.—1st, G. C. Hill; 2nd, W. Debnam; 3rd, S. Bailey; h. c., H. Kerridge and T. Duncan; c., H. W. Seymour. Collection of honey-producing flowers.—1st, W. Brown, Bromley; 2nd, E. E. Smith, Gravesend; 3rd, W. Salmon; h. c., C. Osman.

HONEY SHOW AT AUDLEM, CHESHIRE.

An exhibition of honey in connexion with the Audlem Floral and Horticultural Society was held at Audlem, Cheshire, on Thursday, August 25th. The arrangements were in the hands of Mr. Henry W. Bennion, of Betton Wood, Market Drayton, and were carried out by him in his usually able and efficient manner. The extracted honey classes were well filled, and the quality of the produce excellent, but the entries of comb honey were considerably fewer. The local classes were not so well filled, though exceptionally liberal prizes were offered by the Committee. Mr. John Palmer, of Ludlow, officiated as judge.

Prize List.

Twelve 1-lb. bottles of extracted honey (open).—1st, H. Wood, Paradise, Lichfield; 2nd, — Williams, Lichfield; 3rd, Mrs. Austin, Allscott, Wellington; h. c., — Cartwright, Shawbury, Salop, and — Carver, Wellington; c., Rev. J. Evans, Hargreave Vicarage, Chester. Twelve 1-lb. sections (open).—1st, — Cartwright; 2nd, H. Wood; 3rd, Lady Magdalen Herbert, The Styche, Market Drayton. Twelve 1-lb. bottles of extracted honey (local).—1st, J. Lawton, jun., Market Drayton; 2nd, J. Lawton, sen., Market Drayton; 3rd, G. Middleton, Cloverley; 4th, J. Harrison, Winnington. Twelve 1-lb. sections (local).—1st, J. Harrison; 2nd, W. Hubank, The Styche, Market Drayton; 3rd, W. Jones, Cloverley; 4th, S. Eaton, Audlem. Beeswax

(local).—1st, S. Eaton; 2nd, J. Lawton, sen. Six 1-lb bottles of extracted honey.—1st, J. Lawton, jun.; 2nd, J. Eaton; 3rd, G. Middleton; 4th, C. Merrill, Adderley.

DARNAWAY, MOYNESS, AND DISTRICT B.K.A.

This Association held their first show of honey and bee-appliances in Brodie grounds, in connexion with the Dyke Horticultural Association, on August 10th.

Prize List.

Best 1-lb. section.—1st, J. Donaldson; 2nd, A. George; 3rd, D. Scott. Best bar-frame of honey.—1st, A. George. Best crate of honey.—1st, J. Donaldson; 2nd, A. George; 3rd, W. Brown. Best bottle of extracted honey.—1st and 2nd, C. Johnston; 3rd, A. George. Collection of appliances.—1st, A. George; 2nd, J. Donaldson. Slow feeder.—1st, D. McDonald and C. Johnston (equal); 3rd, A. George. Rapid feeder.—1st and 2nd, D. McDonald; 3rd, A. George. Lady Carmichael's medal.—A. George.

The judges were Mr. William Archibald, Firlands, Forres, for appliances, and Mr. George McLean, the Apiary, Beauly, for honey.

Considering that this Association was only formed in the month of April last, it has made a very good start, and it is hoped another year to extend its prize list. The members desire to thank Sir Thomas and Lady Carmichael for their help and assistance through the Scottish Bee-keepers' Association.

VALE OF LEVEN B.K.A.

I send prize list of our Vale of Leven B.K.A. second annual show, held in Alexandria, N.B., in connexion with the flower show. It was one of the most successful exhibitions ever held in Alexandria, and, according to an eye-witness, superior to S. B. K. A. show in Inverness.—J. Walker, *Secretary, Alexandria, N.B.*

Prize List.

Best twenty-one 1-lb. sections.—1st, W. Wilson, Dumfries; 2nd, J. McGibbon, Luss; 3rd, W. Barlas, Dumbarton. Best twelve 1-lb. sections.—1st, W. Wilson; 2nd, J. McGibbon; 3rd, J. Walker. Best six 1-lb. sections.—1st, W. Wilson (Lady Carmichael's medal); 2nd, J. McGibbon; 3rd, J. S. Redhouse. Best super not over 20 lbs. — W. Wilson (Lady Carmichael's medal). Best super not over 12 lbs.—1st, and medal presented by W. E. Gilmour, Woodbank, W. Wilson; 2nd, A. McGibbon, Arden; 3rd, J. Walker. Six 1-lb. glasses of extracted honey. — 1st, W. Wilson; 2nd, J. Lang, Boturich; 3rd, J. Buchannan, Jamestown. Best display of honey.—1st, W. Wilson. Heaviest super of honey.—1st, and silver medal, W. E. Gilmour. Best 2 lbs. of wax.—J. McLachlan, Alexandria. Best design in honey-comb.—1st, W. Wilson; 2nd, W. Barlas. Best super of honey in show (leaving out W. Wilson).—W. E. Gilmour.

PHOTOGRAPHY AND BEE-KEEPING.

Lantern Slides for Lectures.

A few nights ago I had the privilege of spending an hour or two at a private *séance*—a dark *séance* it was too, excepting as regards light reflected from the screen. To have the opportunity of seeing original photographs mounted as lantern slides and projected by the limelight lantern—photographs taken in Africa, America, and in almost every country in Europe, the whole of them from beginning to end being the handiwork of the exhibitors—was a rare treat indeed, and only to be equalled by the honour of having Mr. Cowan himself at the lantern, a work entailing more labour and fatigue than appears at first sight. Well, it was only one *more* proof of the love and self-sacrifice he has for bee-keeping and all that interests the bee-keeper.

To say that this exhibition of sun pictures from Nature herself was surpassed by a private view of the whole of the magnificent series of lantern slides on bees and bee-culture just issued by Messrs. Newton & Co., would be to say falsely; but speaking as a practical bee-keeper, who tries as much as possible to be *au courant* with the latest discoveries in the craft, I can fairly say that the whole fraternity are much indebted to the firm named for their enterprise and foresight in offering to the bee-keepers of the world such a magnificent *suite* of educational items. They are truly cosmopolitan and speak their tale through the eye, requiring no language of explanation to the apiarist, and very little I ween to even those who "do not know a bee from a bull's foot."

As artistic productions, real works of art, I must first speak of them. Mr. Freshwater, whatever else he is, is an artist, for he has succeeded in giving us *pictures* out of such prosaic materials as the appliances of a bee-master. There is a balance and a grouping together, besides an acquaintance with chiaro-scuro, telling of something beyond mere photography. The series of thirty-seven slides focus what appears to me a perfect educational code of bee-keeping, and are issued at extremely popular prices—15*s.* per dozen—an absurdly low price, and one which should command a rapid sale now that education in apiculture is becoming so general; the wonder is indeed how we have managed winter evening lecturing so long without such necessary aids. One thing ought not to remain unsaid. The physiognomy of Mr. W. Broughton Carr seems destined to be handed down to posterity in these pictures as the actual manipulator from whom the photographer has taken his subjects, the practical bee-operations depicted being direct photographs taken at Mr. Carr's apiary in Kent. In saying this it will be taken for granted that in the bee-work pictured there is reliable evidence of the *workman*. I trust Messrs. Newton will see the advisability of advertising these beautiful slides for the benefit of lecturers.—R. A. H. Grimshaw.

OXFORD UNIVERSITY EXTENSION LECTURES.

SUMMER MEETING, 1892.

On the 25th of August Mr. W. J. Anstey delivered a lecture on bees in the South Writing School (the Examination Schools). A large number of the students attended, and considerable interest was taken in the proceedings. The lecturer dealt with the anatomy of the worker-bee in great detail, and also showed its immense importance in the cross-fertilisation of flowers, thus forming a connecting link to the series of lectures given by Mr. A. D. Hall at the Union and Museum on "Primroses and their Relations." The lecture was illustrated with diagrams showing the parts of the bee and the structure of flowers, and also with microscopic slides.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* Mr. J. HUCKLE, *Kings Langley, Herts* (*see 1st page of Advertisements.*)

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

IN THE HUT.

"For thereabout the happy bees collect,
Soothing the sense with their melodious chime."

[1134.] In spite of the fact that all my neighbours' and all my own bees have been taken to the moors (I wonder why we always say "have gone?"), still, as I say, "there are bees about," as my brother once said after declining to use a veil, and preparatory to receiving a hypodermic injection of the peculiar alkaloid secreted by some individuals of the genus *Apis*, species *mellifica*—in other words, getting jolly well stung. There are bees in my poppies, so I am driven to the conclusion that there is a vagrant swarm in some old wall or tree adjacent. The first spare time I have I will trace them home by capturing a few, putting them in a box, and filling them to repletion with honey; next, I let one out and mark well the direction it takes; then, walking for some distance at a right angle to the line taken by the first bee, I let another escape, and mark its line, walking again the same number of paces, and letting out another. Two bees would give me an imaginary uniting-place at the apex of the first triangle, but the third makes it more sure. If, on arriving at the point decided on as the uniting-point of the lines, I smear a little tuft of cotton wool with a bit of the honey in my box, and deftly stick it on the abdomen of a fourth bee, I may get a fair idea of the exact whereabouts of their habitation. Perhaps better still would be to follow my first bee, let another out, follow it, and so on, using as many tell-tale tufts as I can get on.

Although my bees were strong enough, or rather the hives were—no, that won't do; I mean the stocks were strong—yet the combs were nearly empty of honey, and the hives were never lighter to lift. This is a poor look-out, isn't it, for one, who has not had a drop of summer honey now these three years? Well, after having had them at work on the ling a week, I look, and find nothing in the supers, and should feel disheartened still further did I not remember that in previous years the same thing has happened, the cause of it being that the bees are engaged in filling the brood nest (above brood) and the lower combs. Shall we look? Yes; so it is; there are the combs nearly capped over. So, with good fortune during the next month, we hope to "get some stuff," and return with lighter hearts because of heavier hives. How dreadfully active and angry the bees become at once on reaching the gathering-ground of the moors is most evident this year once again. Bees, tame to a degree at home all the season, are suddenly converted into regular demons on being brought within reach of the nectar of *Calluna vulgaris*, the common ling, from which is obtained the far-famed heather honey.

This brings me to the question of sting-preventives mentioned in 1114, p. 307 *B. B. J.* Your correspondent says he recommends the hands to be rubbed on pigs' backs, and suggests "some good brother bee-keeper will try it." I, on my part, suggest your correspondent himself as an exceedingly "good brother bee-keeper," and I venture to hint that his porcine preventive will have a very merry reception. I once tried it by accident. I had been paying this common attention to my pigs by soothing or exciting (I don't know which) the magnetic action of the vertebra, and proceeded to my bees (after well washing my hands, mind you), when—— Well, I did get it, and no mistake! Try it, good brother bee-keepers, try it!

Whilst on stinging—that is, whilst I am on the subject—let me assume Mr. Jowett (1108, p. 304) that the question has been up, in his favour, before—in the Hut several times. Mr. C. N. Abbott (the Grand Old Veteran) was the first to confirm my own accidental experience; then followed the confirmations of others, and, to prove that old England is in the van of bee-keeping discoveries, came a Continental announcement that a great discovery had been made by a German doctor, and he was treating patients to bee-stings as a cure for rheumatism.

Let me change the subject to an August home-coming from a chance visit to the moors, and think of the many opportunities the thoughtful bee-keeper has of peaceful communion with

Nature. How he notices insects and flowers in his walks; whether the nectaries and the nectar are suitable or not for his bees, and why some insects remain for such long times on certain flowers. He may watch, and watch again (some insects remain perfectly motionless), and come to the correct conclusion, that many of them find a true intoxicating odour in the scent of the flower, from which they can never escape. The plant, then, in such cases, uses its nectar odour, not as a bait, but as a protection against robbery.

"But the sweetest of all seeming music to me
Were the songs of the clumsy brown beetle and bee;
The one was seen hastening away to his hive—
The other was just from his sleeping alive;
'Gainst our hats he kept knocking, as if he'd no eyes,
And when batter'd down he was puzzled to rise."
—CLARE'S *Recollections of an Evening Walk.*

Extracted by—X-TRACTOR.

OPEN-AIR FEEDING AND FOUL BROOD.

[1135.] I have read your notes on "Foul Brood," and you may like to know one of the precautions I have for some time past taken. It is to feed "in the open" very liberally during the autumn (as soon as honey-flow has ceased) with *very thin syrup*, rather strongly medicated with phenol. The syrup will be only about two pounds to the quart of water, and just double the amount of phenol that is advised in the recipes given in the bee-books. If the open feeding is done at a distance (say, 100 yards) from the apiary, I do not find that it causes robbing, and if my neighbours' *bees do get some*, I know it is doing good by curing them of foul brood if they have it. There has always been some foul brood in this district—not much, and as I have never had it in my own apiary, I think my plan has some merit. Camphor is always kept in the hives, and, of course, in any bottle-feeding that may be resorted to, the *usual quantity* of phenol is added to the syrup.—A HERTS BEE-KEEPER.

[Open-air feeding is very useful no doubt in *safe* hands and in safe *districts*, but the plan is, in our opinion, fraught with too many risks to be recommended for adoption except with the limitation to which we have referred.—EDS.]

BEE-KEEPING IN MINORCA, ETC.

[1136.] I have read with great pleasure your account of your voyage to the Dark Continent, and have enjoyed exceedingly your exposal of those philanthropical gentlemen who desired to sell so-called "Punics" at $50 or more. The season here has been too dry, this is the trouble in these hot countries. Still my small house apiary, where Alsike clover abounded, gave us very good results. This clover is never cultivated here, but is one of the natural grasses. While this lasted my eight colonies gave us from thirty to fifty pounds each of surplus extracted honey, which we think very fine indeed. A hybrid colony was one of the best.

As you are aware, the clover crop only lasts about two weeks. In the interior, where my son has an apiary of some 120 colonies, the sainfoin harvest was very short, owing to the previous winterly weather, and as it is cut early in the season, the bees had a very short time of it, so that only five hundredweight was taken, whereas in a good year it would easily reach twenty-five hundredweight. "Patience, and shuffle the cards," as Don Quixote says.

The season is too short here for sections, as want of rain generally brings it to a close by the first of May. When I read of your honey season in June and July it makes my mouth water, for then our land is parched up except where irrigation is in vogue.

But the law of compensation gives us in return fine sunny weather from October to April, with abundance of flowers, the bees keeping up the brood all winter.

Two or three colonies have had Italian queen-cells introduced in spring, and they now promise well for next year. I prefer the hybrids, and they are not, nor can they be, more vicious, and I think they are less so than our native bees.—F. C. ANDREU, *Minorca, August 27th.*

SUPER-CLEARERS.

[1137.] I can give evidence in support of Messrs. "Useful Hints" and Woodley. I have two strong stocks of bees near each other; about ten days ago, or perhaps rather longer, I took from one of these, by the aid of two cone super-clearers, and without a hitch, eighty-four one-pound sections, every one of which was well filled and sealed.

One day this week I started to do likewise with the other stock, on which were sixty-three similar sections, although not quite so perfect as the others. The bees had hardly commenced leaving before the cone was simply covered with others from the first-named hive; so thick were they, that no portion of the cone was visible, although it is five inches long, and it was only eight o'clock in the morning. Having covered the cone from end to end, they, of course, found the entrance; and soon there were more going in than coming out, and a nice fight just beginning. Luckily I was at home, and by using smoke and carbolic acid freely I managed to stop the fray. The sections are certainly not improved by the short fight over them, and I fancy the excitement caused the stock in possession to damage the cappings even in the lower crate, to which no strangers penetrated. Could not the cones be fitted with a turnstile in the same way as the Porter spring-escape clearer?—R. J. SANKEY, *Surbiton.*

[No doubt the mischief could be in some measure guarded against; but it is best to dispense with the simple cone in autumn and use the other form, as advised.—EDS.

FROM PALESTINE TO EUROPE.

[1138.] I have arrived at Marseilles with about fifty Palestine and Cyprian queens, and some of the hives had thirteen frames. The passage, clearing at customs, &c., took eleven days, during which time the poor little things were imprisoned. I could only look through the wire screen during that time, and saw numbers of dead carried out. I think about one-third would be dead. I mean individual bees, for I have lost no colonies. What anxious moments I passed till I was finally settled! and when I opened the hives the bees came swarming out, and unhappily a woman had spread out her sheets in the meadow close to where they were released, with what result you will guess. How the little Palestines must have been astonished to see everything green around them, coming as they did from a dried-up country! We, too, are enjoying Europe. We had a very smooth passage, and are now preparing for the Marseilles Bee Show, which, I am told, will probably take place in October.—PH. J. BALDENSPERGER, *Marseilles, August 23rd.*

ANTISEPTIC QUILTS.

[1139.] As there seems to be some difficulty in obtaining the "antiseptic quilts" recommended by Mr. Abbott, I enclose you a sample of what I use both for tops of frames and floor-boards, and which I can supply as per advertisement.—CHARLES AINGER.

[Material received is similar—but much thinner—to that sent by Mr. J. H. Howard, referred to on p. 338, No. 1131.—EDS.]

CIRCULATING BEE LITERATURE.

[1140.] Referring to the letter from Mr. North Lewis on the above subject (1130, p. 328), early in August I had a long conversation with the librarian of the public library attached to the "Patent Office" in Chancery Lane on the matter, and I suggested then that a fresh stock of books on bee-culture should be got to take the place of those already on the shelves, which, good no doubt in their time, are very much out of date now. The librarian at once agreed with me, and asked me to supply a list of books I would recommend, and I gave him the following list:—*The Hive and Honey Bee* (Langstroth), Cheshire's *Bees and Bee-keeping* (2 vols), Cook's *Manual of the Apiary*, *Modern Bee Farm* (Simmins), *The Honey Bee* (Cowan), *British Bee-keepers' Guide* (Cowan), Root's *A B C of Bee-culture*. I have since seen him, and he says he shall recommend the whole of these works to be got as soon as possible, and he was much obliged for my suggestion.

Now, Messrs. Editors, I would suggest that Mr. Lewis and others who find their local libraries are in want of works on bee-keeping, should see the librarians and point out the want, and I have no doubt their suggestions will be received with courtesy, and the books supplied out of the funds allocated periodically for this purpose. In most libraries there is a book kept for the purpose of the public making notes of works wanted and recommended by them, and at stated times this book is gone through, and a large number of the recommended works supplied.

I would also suggest, Messrs. Editors, that it would largely tend to the circulation of bee-literature if you could see your way to send to some of the large free libraries some of the surplus copies of the *B.B.J.* and *Record* to be laid on the reading-room tables. I am informed that a large number of editors of weekly periodicals send copies of their respective papers to the libraries for this purpose, and at the end of a volume the library authorities have the numbers bound and placed on the shelves for reference.

I am an enthusiastic bee-keeper myself (in a small way), and I can vouch for one fact, and that is the amount of valuable information and very many practical hints I obtain from the *B.B.J.* and *Record*, which should be studied by all bee-keepers; at least, such is the opinion of —THE HEATHEN, *Thornton Heath, Surrey.*

[We should be very pleased to place at the disposal of librarians, where bee journals are likely to be of interest, a few copies of our *Journal* on receipt of application for same.—EDS.]

HONEY-DEW.

[1141.] In "Useful Hints" last week it is stated that, as "so far as personal observation goes," Kent has escaped the black honey, or honey-dew, but here, at Hawkhurst, we have had all the last takings of honey spoiled, and of no use except for feeding through its dark colour. It will, however, save buying sugar. The earliest honey gathered in our neighbourhood this year was lovely in colour and very thick, but it has begun to candy already. The season here has been fairly good; I have taken 189 pounds from four hives—not quite so good as last year, mainly because of too many cold nights and dull days when the clover was in bloom. This last three weeks, again, we have had a great deal of wet weather, making it very bad for harvesting. I am glad to say we have not much foul brood—we always take drastic measures with that.—F. REED, *Hawkhurst, Kent, September 2nd*, 1892.

A HINT FOR LEVELLING HIVES.

[1142.] Having hived some swarms, and desiring that the hive should stand level, and not having a spirit level with me, it occurred to me that since the hive should stand upright, a plummet would do just as well as a spirit level, and this I made by means of a small stone and a piece of long grass. I mention the above as, although very simple, I believe a plummet, which

is easier to work with, is not generally used by bee-keepers.—A. T. WILMOT.

THE SEASON OF 1892.

[1143.] The season here has been good for bees and honey. My take this year has been much above the average, and I think bees around here will go into winter quarters with abundance of natural stores if this fine weather lasts a little longer. Sorry to hear such gloomy reports from various counties; but those who have failed now must hope on. Last year was bad here. Perhaps next season will be better for you; at least, I hope so. My honey has granulated much quicker than usual this year. Ripe honey was solid ten days after extracting. My comb honey is still in a liquid state. Perhaps our scientific brethren can throw some light on the subject. Being out the other day on a bee-driving expedition, I came across some of the darkest honey I ever saw. It looked as though it had been mixed with ink, and its flavour was very strong. I cannot understand from what source it was gathered.—C. WHITING, *Hundon, Suffolk.*

BEE-KEEPING IN CANADA.

[1144.] There has not been a month during the past year in which it has not been my intention to give the readers of the *British Bee Journal* an idea how we were faring on this side of the Atlantic and in Canada.

The season of 1891 was a short one, and from linden but little honey was secured. In the majority of localities there was no fall flow. As a result many colonies went into winter quarters deficient in stores. The more careful ones, amongst whom I occasionally appear, fed. I had to feed an average of thirteen pounds to the colony. Over one-third of the colonies put into winter quarters, or wintered on their summer stands, perished. A few days in April were spring-like and mild. Then set in a long siege of cold weather, weather too cold to even examine colonies, and many more perished. During apple blossom a week of fine weather gave colonies a good start, then it rained—rained day after day, never remaining fair long enough to allow the honey to get into clover blossom. We thought at first it would not last long, but it did, until we did not care to live even on the prospects. But finally the clouds gave us a respite, and the bees, such as were left, worked. I say such as were left, for many more colonies had been lost between the time spring opened and apple blossom, and but few colonies were really strong. The bees did well on late clover, thistle, and in some localities linden, and they are this fall in much better condition than a year ago.

The question may suggest itself, What about the price of honey? Owing to an abundance of fruit last year, and some think the reduction of sugar from 7 cents per pound to 4½ and 5 cents (granulated), honey was not in the usual active demand, and the price of honey throughout the country has been reduced at least 1 cent per pound, and in spite of that a large (unusually large) quantity of honey has been left over from last year. How we shall fare this year we do not yet know, but I do not think the price will advance. I may say there has thus far been no difficulty in disposing of comb honey if first class, and I believe in the near future we shall have more bee-keepers go in for the production of comb honey.—R. F. HOLTERMANN, *Brantford, Ont., August 9th*, 1892.

NOTES FROM IRELAND.

LATE TRANSFERRING—WHISKY AND BEES.

[1145.] As late as the 1st December, 1891, I had to unite and transfer two lots of bees out of sheer necessity. A gentleman having a clearance sale, and removing to another farm, had two hives damaged. The depredators went so far as to upset the hives, get the combs upon a fork, and shake till all the bees were off. The previous night was frosty, and the bees had not stirred at 11.30 a.m. I stuffed a bit of grass in entrance of each (one a frame hive, the other a skep) and took them quietly to their future home. When I arrived at the garden the sun and shade was beautiful, and time about 12.30, so I set to work at once, quietly sprinkling entire lots with thin syrup, and giving a little smoke. After fifteen minutes I opened the frame hive and brushed adhering bees in front. I then "bumped" the skep on to the mass, and sprinkled both the lots well with flour. I arranged frame hive, putting in six bars, and collecting every available morsel of honey mixed with broken comb, and placed some inside of dummy, having fixed a nail in bottom of hive for dummy to rest at any angle of about forty-five. I quilted and packed all very comfortably, and allowed them to walk in. I gave the necessary instructions to feed with thick syrup on tea-leaves on fine days, but not to go near them in frost or snow. I had a bad opinion, however, of the job, and was afraid to make any inquiries about them. Well, about a month ago the gentleman addressed me thus: "You are not asking me about the bees." "Why, are they not dead?" says I. "No; but they have thrown off two swarms. I have them in boxes in the garden, and I want you to bring two frame hives and transfer them. I fed them as you desired me, and at Christmas I mixed a little whisky and sugar, thinking they ought to have a spree too, and I assure you when they got the whisky they got cross, and you could not go near the hive." I went and began operations. They had built comb and stored honey on the inclined dummy, so I got enough comb to fill two frames from it, and utilised all the remaining brood and honey, with the result that I left him three strong stocks of bees upon eight frames each. I gave the lots two frames of brood from the parent hive to prevent further swarming. They are now getting an abundant supply of

heather honey, and the Doctor says he'll have a great bee-season next year out of nothing.

One bee-keeper showed me a "memo." as follows: — "Wicklow, August 24th, 1892. Please find cheque for honey, and say if you have any more ready.—N. Haskins." This honey was purchased at the local flower show here, held annually under the auspices of the Earl and Countess Fitzwilliam. It was owned by a cottager. He took first prize with it, beating a gentleman farmer, who only took second prize.

Plenty of honey can be sold at a good price if the parties would not be so covetous, holding till all is ready to get a large sum together. They glut the market, and purchasers have to send it off at cost to clear out at end of season. It is curious how they set down in malice every item of expenditure against the bees.

One farmer here sold ten ewe lambs twelve years ago for 27*s.* each. Yesterday, in the fair of Shillelagh, he sold the same quality for 10*s.* each. The cottagers here can earn their rents in prizes for keeping cottages neat and cropping their gardens to perfection. Winter chickens fetched 7*s.* 6*d.* per pair, and spring chickens, three months old, 5*s.* 6*d.* per pair. So all these aids, coupled with keeping bees, ought to enable any cottager or artisan living in the country to meet and tide over all difficulties. The bees go forth to the farmers' hedgerows and fields, collect honey therefrom, and he cannot demand trespass, as for cow, horse, or pig. When a cottager living in a certain district can command a cheque for his honey, isn't it open to every one to partake of such. Some of the cottagers here took over 5*l.* in prizes. The estate is divided into five districts, and prizes of 20*s.*, 15*s.*, 10*s.* given in each for best pig; 10*s.*, 7*s.* 6*d.*, 5*s.* for best cock and hen, with innumerable prizes for bread, butter, honey, needlework, vegetables, fruits, flowers, baskets of mixed vegetables, the band of the Light Cornwalls discoursing sweet music during the day of flower show.—Jas. Traynor, *Tinahely, Ireland, August 29th*, 1892.

Queries and Replies.

[636.] *The Sex of Bees' Eggs.*—I have read many books on bees, but one thing I have never heard explained—that is, in reference to drones. All writers agree that the queen lays all the eggs. Now, what I should like to know is: 1, suppose the same egg that is laid in a drone cell was removed and deposited in a worker cell, would that drone egg produce a worker bee? 2, Why has the worker a sting and the drone not? I have never been able to understand it. —G. B., *Compton, Sussex.*

Reply.—1. It may be safely said that, under the circumstances named, the egg so removed into a worker cell would develop into a drone; the cell, of course, being enlarged to accommodate its more bulky inmate. The physiological reasons for this would take up too much space to detail, but any good modern book on the subject will make the matter quite clear. 2. Because the special functions of the drone bee render the possession of a weapon of defence unnecessary. Your inquiry is just like asking, 'Why do not drones gather honey?"

[637.] *Foul Brood Remedies.*—Please send me some Naphthol Beta. I have a lot of naphthaline left. Do you think a whole lump too much to put into a hive at one time? I am glad to say out of fifteen hives I treated last September for foul brood, I only find a few traces of it in two hives. I believe I have carried out your instructions in the *B. B. J.* to the letter.—W. J. P., *Ottery, St. Mary.*

Reply.—Two of the balls of naphthaline —each split in half, and which weighs under a quarter of an ounce—is quite enough for a do e. More is sometimes harmful.

[638.] *Is Foul Brood Hereditary?*—As some of my bees are affected with foul brood, may I ask, Is the disease hereditary? I am inclined to think it is, as last year I lost stock No. 1. after using naphthaline and Naphthol Beta, and now I find that stock No. 2, which is a swarm from No. 1, is also affected. I have taken extreme measures with it, having extracted all stores from the combs, and propose to feed up with medicated food. It is a splendid strong lot, and I don't like to destroy them. I have this season a swarm from No. 2; do you think it would be well to take all food from them and give them medicated in its place as a preventive, and also to re-queen the whole of stocks? Thanking you for valuable information we get from time to time in *Bee Journal*,—J. P. B.

Reply.—Although it has been supposed by some scientists that foul brood was hereditary, we have never been able to satisfy ourselves that it is so. It is, however, terribly infectious and contagious, and when it gets to an advanced stage it is most difficult to cure. When it is remembered that one spore is able to start the disease, and that many thousands of these occupy a space about as large as a pin's point, it is not surprising that many of them escape destruction. Although it is no more possible to cure every case of foul brood than it is to cure every case of cholera, the number of recoveries by the naphthaline and Naphthol Beta treatment, if properly carried out, are sufficiently great to warrant us in assuming that they stand amongst the best disinfectants at present known. We should destroy the worst combs and extract the honey from the others, boil it up, and add Naphthol Beta to it, and use it as food. Also place naphthaline in the hive. Feed the swarm with medicated syrup and use naphthaline.

[639.] *Packing Bees for Winter.*—In *B. B. J.* for April 14th (508) mention is made of "Mr. Carr's method" of packing bees for winter; would you kindly mention in what number it was described, and if it is a better way than using American cloth, with quilts or cushion over? I have a late swarm of this year, and I

thought perhaps American cloth next the frames would cause too much moisture, as I understand it should only be used for strong stocks. 2. Ought the ventilators in roof to be stopped up in winter to prevent quilts on the top getting wet?—L. M., *Herts.*

REPLY.—1. No special or detailed description of the method of winter packing referred to has appeared; probably it has been mentioned in "Useful Hints;" but it is simply filling up the space between hive and outer case with old newspapers roughly crumpled up as a protection from frost. American cloth is used as a covering next the frames, and if warm packing is placed above this, it reduces the tendency to condensation of moisture on the under side. 2. No.

[640.] *Aphidian Honey.*—Referring to the current issue of the *B.B.J.*, p. 334, I should be glad if you would inform me—1. what is "aphidian honey or honey-dew?" 2. I send a sample by this post of honey which I took from a skep; it is much darker than that I have obtained from the frame hives. Is it "obviously aphidian honey?" if so, is it fit for human food?—as my people prefer it to the lighter-coloured honey, and I do not wish to give them anything injurious to their health.—PERCY SHARP.

REPLY.—Aphidian honey is an exudation of the Aphis, or green fly, and is found on the leaves of trees and plants infested by that insect. 2. The honey sent is not dark honey, neither is their anything analogous to aphidian honey about it. It is, however, not of good quality by any means, being thin, unripe, and of poor flavour. There is nothing in it injurious to health, but if kept long it would probably ferment and turn sour.

[641.] *Linoleum for Covering Frames.*—1. I have put thick linoleum, generally used in kitchens and passages, for the tops of frames. Is there any objection? 2. Robbers still attack two of my hives. Glass and the carbolic cloth seem not to thwart them. Would it be the better course to unite these two into one—they are not very strong—or can you suggest how to prevent it now? 3. I have noticed bees carrying out brood; they seem to be robbers. Would they do this? If any dead brood be in a hive, would the bees clear it out of the cells in due time? 4. I have two frame hives long enough for fourteen to sixteen frames. I want to work for extracted honey. Should I make a brood nest of four frames, then put a queen-excluder division board, and extract from frames behind this? 5. Do you know of anything that will reduce the swelling after being stung?—INQUIRER, *Gloucester.*

REPLY.—1. If the linoleum, as described, was cut into three or four strips, we should see no objection to its use as a covering to frames. A single square of it would, however, be very inconvenient in manipulating the frames. 2. If the two weak lots are healthy it would be a good plan to unite them. To stop robbing once begun is very difficult; it should be nipped in the bud. Read "Hints" of last week. 3. Dead brood is a dangerous thing to leave in a hive; it should always be cut out and burnt. 4. Of course it is too late to talk of new plans for obtaining honey for extracting this year, but, in any case, four frames are altogether too few for a brood-nest. 5. Nothing that would be effectual in all cases.

DESTROYING ANTS.

Having had years of torment with ants, both black and red, we lighted upon the following remedy, which with us has worked like magic: One spoonful tartar emetic, one spoonful sugar, mixed into a thin syrup. As it evaporates or is carried off, add ingredients as needed.

Echoes from the Hives.

Stoke Prior, Bromsgrove, August 25th, 1892.—The honey season in this district is drawing rapidly to a close, and the takings have been very small. Some bee-keepers here have not secured an ounce of surplus honey, so I, with my twelve pounds from a skep and thirty-five pounds from a frame hive, must be content.—PERCY LEIGH.

Ladock, Cornwall, September 2nd.—I think it has been a good year in Cornwall for honey. I have had a splendid year for honey. We were having beautiful weather when our north country friends were having it cold and wet, according to reports in the *Journal.* I have had between 500 and 600 beautiful sections, and about 700 pounds of extracted honey of beautiful colour from twenty-two wood hives. I have thirteen straw skeps not taken off yet. We think we have done well, and are well pleased.—R. WILLIAMS.

WEATHER REPORT.

WESTBOURNE, SUSSEX.

August, 1892.

Rainfall, 3·23 in.	Sunshine, 204 hrs.
Heaviest fall, 1·11 in. on 18th.	Brightest day, 21st, 13·30 hrs.
Rain fell on 15 days.	Sunless days, 0.
Above average, ·64.	Above average, 9·40 hrs.
Max. temp., 72° on 17th.	Mean max. 65·74°.
Min. temp., 42° on 11th.	Mean min., 51·9°.
Min. on grass, 40° on 11th.	Mean temp., 59·31°.
	Max. barometer, 30·44 on 11th.
Warmest nights, 29-30th, min. 61°.	Min. barometer, 29·55 on 28th.

A fair amount of lime-blossom, and second clover honey. No swarms. Average per hive, about 46 lbs.—L. B. BIRKETT.

REVIEW OF CONTINENTAL BEE-PAPERS.

By J. Dennler.

1. *L'Apiculteur*, Paris, founded by H. Hamet, has commenced its thirty-sixth year under the able direction of M. Sevalle. This is the monthly journal of bee-keepers, honey and wax merchants, and also the organ of the Central Society of Apiculture and Insectology of France, which also owns it. The meetings of the Society take place once a month. On the 16th of December last M. Saint Pré expressed his surprise that he had found, a few days previously, *brood in nine hives* which he was moving. This abnormal condition, which could be attributed to the mildness of the temperature, was also witnessed by other bee-keepers, as also the bringing in of pollen mentioned by M. Saint Pré.

Canada Poplar.—M. Chardin, a hive-maker, mentions that wood from the Canadian poplar, as well as that from Italy, lasts as long as pine and warps less; that poplar planed on the inside does not become propolised by the bees, and retains its porosity; that the possibility of getting very wide boards avoids joints and additions, the junctions of which form lodgments for the wax-moth.

No. 2 contains several articles on the fixed and movable frame systems. It is known that the founder of the *Apiculteur*, M. Hamet, was a determined fixist, and regarded the extractor as a toy. His system has still a good many adherents in France, who by every means in their power wage war against the mobilist of the modern school.

2. *L'Auxiliaire de l'Apiculture.* Editor, J. B. Leriche.—*Bees and flowers.*—Philagris observes that bees visit flowers several times during the same day, sometimes at close intervals. Borage, vipers' bugloss (*Echium vulgare*), *Arabis alpina* are amongst such flowers. They are even successively visited by several species of bees, which collect honey from them. Others are visited by honey-bees for the nectar, only after humble-bees have perforated their long tubes with their strong mandibles, such are common beans, kidney beans, heath (?), &c. M. Perez speaks of this observation, which he quotes from Darwin, in his work, *Les Abeilles*, on pages 123 and 124, but I have long since observed this, and a bee-keeper friend of mine also spoke to me about it recently. Darwin also says that hive-bees also pierce the corolla as well as the humble-bee. [We have ourselves witnessed honey-bees pierce the corolla of several flowers, such as the nasturtium and comfrey.—Eds. *B. B. J.*]

Ceresine, which is frequently sold under the name of wax, and which is also used for adulterating beeswax, is a mineral wax, purified by treatment with sulphuric acid and charcoal, and afterwards distilled in superheated steam. It is a parafine, melting at 60° to 65° Cent. (140° to 147° Fahr.) which has very similar properties to beeswax. It can be obtained pure white, and then it has the appearance of the best quality of bleached wax. When it is required as yellow wax it is coloured. By adding, in fact, to second-quality ceresine, a colouring matter, such as turmeric or gamboge, a product is obtained closely resembling beeswax in its raw state or slightly bleached. By the addition of an aromatic substance it is even possible to give it the characteristic odour of beeswax.

The new Customs tariff of France contains 750 articles. The following are the duties relating to honey and wax:—Honey, 15 to 10; hydromel, 20; wax, 12 to 8; residues of wax, exempt; vegetable wax, 12 to 8; mineral wax or ozokerit, crude, 12 to 10; refined, 50 to 40. There are two figures. The first is the general duty in francs per hundred kilos.; the second is the minimum tariff destined for those states according the favoured nations' clauses to France.

Importation and Exportation of Honey and Wax.

	1888	1889	1890
Imports:—			
		Kilos.	
Crude yellow, brown, or bleached wax	876,990	760,126	742,709
Honey	443,783	328,498	579,770
		Francs.	
Value of wax	...2,718,669	2,432,403	2,376,669
Honey	621,296	476,322	840,667
Exports:—			
		Kilos.	
Crude yellow, brown, or bleached wax	336,081	433,110	328,783
Honey	846,894	771,606	1,051,778
		Francs.	
Value of Wax	...1,075,459	1,472,574	1,117,862
Honey ...	...1,227,996	1,157,499	1,577,667

A Good Recipe for Black Currant Ratafia.

1. Gather well-ripened black currants in the proportion of 500 grammes to 3 litres of water.

2. Crush the currants, and put the juice and pulp in an earthen or wooden vessel, and then pour upon it some water sweetened with honey, so that the whole of the pulp is well immersed. There should be 420 grammes of honey to every litre of water.

3. Let this ferment until it reaches the degree of zero, which generally takes fifteen days. During fermentation it is necessary from time to time to stir, so as to prevent the pulp becoming mouldy.

4. When fermentation has ceased, strain through a linen cloth, and pour the liquid into a barrel.

5. Into this barrel pour honey water of same strength as that given above, in sufficient quantities that there may be as many three litres of this water as there were 500 grammes (pounds) of black currants at the commencement.

6. After this is well mixed in the barrel, a fresh fermentation commences which lasts from three to four weeks, during which time a cloth should be placed over the bung-hole. Gradually the liquid becomes clear, and can then be put in bottles.

This drink is slightly aperient and stimulative of digestion. "*Experto crede, Roberto.*"

(*To be continued.*)

NOT PUNICS, BUT TUNISIANS.

More American Editorial Opinion.

"For the purpose of straightening out some of the 'snarls,' and learning the truth in regard to the so-called 'Punic' bees, Mr. T. W. Cowan has visited that part of Africa from which the Punics (?) were reported to have been brought. He found nothing except Tunisians and the very man from whom John Hewitt of England had procured the bees that he *called* Punics and offered for sale at ridiculously high prices. Of course it is a fraud to sell bees for what they are not, but the greater evil, so far as results are concerned, will probably be the introduction of bees that are very irritable and great users of propolis, without having sufficiently compensating good qualities. Bro. Cowan is to be commended for his enterprise in the matter."—*Bee-keeper's Review.*

Bee Shows to Come.

Sept. 10th.—Bee and Honey Show at Bramall Hall, Stockport. Entries closed. William Slater, Secretary, Fern Lea, Bramhall, Stockport.

Sept. 17th.—Great Honey Show of the Berkshire Bee-keepers' Association at Reading. Silver cups and medals, bronze medals, and over 30*l.* offered in prizes. No entry fee for the National Competition for a single section and a single one-pound jar of extracted honey. Entries close September 7th. For schedules apply to Hon. Sec. Berks B. K. A., 17 Market Place, Reading.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries close September 13th. For entry forms, apply to Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

The Village Blacksmith.—Honey is very fair indeed in quality, and will make a specially nice honey for use after it granulates. It is not, however, as you suppose, "chiefly from limes;" in fact, there is very little lime honey in it.

W. Burkitt.—Queen was dead on arrival. There is nothing abnormal about her, and it may be set down as simply a case of unprolificness.

H. Smith (Lewes).—*Pollen for Driven Bees.*—There is no need for supplying driven bees with artificial pollen until breeding begins in spring.

T. B. (Llanrwst).—Honey forwarded is excellent in quality, and we should say may be safely accepted as "pure English honey" if sold as such.

J. Wilkins (Wolverhampton)—*Feeding and Medicating Bee-food.*—If the combs are all built out, and the outer ones are sealed over, you may take one comb from each stock if it is particularly desired to have a little of the season's honey. If, however, the swarms have not gathered very well, do not take any honey from them at all, but give syrup until each has about twenty-five pounds of stores on which to winter. For medicating food use either Naphthol Beta or else salicylic acid, but not both. Naphthaline is put in hives as a preventive of infection. Prices of all you require appear in our advertising pages. All queries must be addressed to the Editors.

J. Thomas (Gloucester).—In answering the question as to "which is the best hive" we can only give you our personal preference, which is for a hive on the storifying principle, in which all surplus honey is stored above the brood nest.

Ed. Budd (Strood).—*Appliance Dealers in New Zealand.*—The best-known dealer in the northern province of New Zealand is Mr. Isaac Hopkins, Lower Queen Street, Auckland.

E. C. R. White (Salisbury).—*Is Lead Injurious to Honey?—Bee Syrup.*—Honey contains acid, and, as oxide of lead is poisonous, contact with the latter must be more or less injurious. Tin, on the other hand, is harmless. Syrup for winter food should be boiled gently for a minute or so.

George Benford (Compton).—The foundation sent seems to be of last year's making. It may be genuine beeswax, but it is less tenacious than usual. Perhaps your "screwing" it too close in the split top bar may have caused it to crack off. In future put it through warm water to soften a little before using.

A. Howell (Coleford).—*Feeding Bees.*—1. If no honey is visible at the top of combs there will be very little below, and feeding should begin at once. 2. Preserve partly combed sections for future use. 3. Cut a hole in top of skep for feeding by means of an inverted bottle. Salicylic acid costs 6*d.* per ounce.

Inquirer (Weybridge).—Comb sent is so badly affected with foul brood that we should destroy the stock by sulphur, burn the combs and disinfect the hive before using again.

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER AND BEES AT THE MOORS.—Without being classed as a wet autumn, rain has been more plentiful than will be quite satisfactory to northern bee-keepers, who are relying on the harvest at the moors recouping them for a poor summer season for flower honey. How bees have really fared at the heather it is yet too early to say, but it is to be feared that the chances of a big crop are not very probable. Moor-men frequently complain of the extreme difficulty experienced in getting bees to store their ingathering at the moors above the brood nest. Whether instinct teaches them that it is safer to cluster near the food as winter draws near we cannot say; but they *will* store the greater portion of the income below if there is room for it, breeding space apparently becoming a minor consideration at such times. One well-known bee-keeper we know of, who regularly takes his stocks to the moors, besides giving a good deal of thought to the question, has a pet theory on the subject, which we trust he will ere long give our readers the benefit of. Meanwhile, it may be safely assumed that the cool nights usually prevailing in the later autumn months have the effect of disinclining bees to carry the nectar gathered during the day into overhead surplus boxes. Where the queen is, there the bulk of the bees will be, and, quite naturally as we think, there also will the food be stored ready for use. The point is, will it be advisable to limit the cell-room below, so as to compel the bees to use the space above for storage—or, at all events, to see that they have not so many empty combs below when taken to the moors as will contain the greater portion of the heather harvest? We shall welcome discussion on the point, while offering our friend referred to a "hint" to give us his "views."

PREPARING FOR WINTER.—Now that all surplus honey is removed, except that from the heather, there arises the question of preparing stocks for winter. In some apiaries bees will be found at this season so excitable and ready to start robbing that, when this is so, rather than cause an upset, we would take the risk of deferring final and full examination of stocks till such time as they have quietened down and become amenable to handling with comfort to the operator and order among the bees. In such cases no more need be done than taking a glance at the state of the stores, before giving the bulk of such food as is required for wintering on. If a good-sized "rapid feeder" be used, and the warm syrup given at nightfall, no sign of feeding excitement will be seen. In giving food we prefer not to remove quilts, but set the feeder on a board having a central feed-hole corresponding with that in the quilts. This conserves the warmth of the body-box, and facilitates sealing of the food. When the bees show no tendency to robbing, the final overhauling of each brood nest should take place without delay, in order to make sure of several things: (1) That queens are safe, (2) the condition of stores, and (3) the healthiness, or otherwise, of all stocks. Then there is clearing of floors, placing naphthaline thereon and giving space below combs. These points decided and carefully noted down for reference no second examination of combs will be necessary before packing down for winter.

OVER-MANIPULATION AND UNDUE INTERFERENCE.—Among other evils connected with bee-management we should say that when queens are lost, superseded, or deposed by bees themselves, three-fourths of the mischief is due to injudicious meddling on the part of the bee-keeper. No wonder that mishaps to queens are so common in apiaries where overhauling of combs and

fussy interference with bees is about ten times more frequent than is either needful or wise. Why, we can read of more wonderful "experiences" occurring to one bee-keeper in a single year, than another, with quite as many stocks in hand, will have happen to him in a dozen! In one case the bees are constantly being "pulled about," and in the other they are not interfered with unnecessarily. Therefore, the more we can reduce the evils of undue interference, the less often will such mishaps as have been referred to be likely to occur, and it is certain that the skill of the bee-keeper is nowhere more apparent than in limiting the opening of hives and manipulation of combs to the lowest point consistent with good management. In a word, never open a hive or disturb the bees without good and sufficient reason.

We have been induced to pen the above remarks in consequence of inquiries made by correspondents who find their bees troublesome to manage this autumn, and we feel quite sure that our contention in attributing the trouble to the causes named is right.

Improved Appliances—Super-Clearers and Feeders.—Ample opportunity has now been afforded for testing thoroughly all the different varieties and types of super-clearers which have been introduced during the season now closing, and it will, we think, be admitted that the general adoption of this little appliance marks one of the most distinct advances made in the art of modern bee-keeping recorded for some years past. In places where "taking the honey' was a thing to dread, because of the annoyance caused to near neighbours at "taking' time, there is now neither alarm nor misgiving. With a very small amount of trouble the bee-keeper may remove his surplus, and no one be the wiser but himself; in fact, the very bees themselves seem hardly conscious that anything has been stolen from them. And what an unmixed blessing will this be to some we know of! They have but to slip the clearer between hive and surplus chamber in the evening after bee-work is over for the day, and carry the honey indoors next morning, before the bees start to leave their hives. This is the easy beginning and comfortable ending of the whole job, and what was formerly to many readers an irksome and troublesome task is, we are thankful to say, now a thing of the past.

Of the various clearers used, we have personally tested each distinct type very fully, and the conclusion we arrive at is that the simple outside cone answers all purposes for the early season, but fails completely in the autumn; and, as we have the cones fixed to our hive roofs permanently, in practice nothing further is done when removing surplus in summer, when honey is plentiful, than inserting a quilt between the honey to be removed and the hive, and leaving the bees to escape by the cone. So soon, however, as honey *begins* to fail, the American type of clearer is used, otherwise the odour of the exposed honey attracts robber bees to the outside cones, and trouble at once results.

The best form of the latter type of clearer we have seen is undoubtedly the "Porter bee-escape." That made by Mr. Flood is the one we tested, and we note that the tin portion, or actual "escape" itself, is the original made in America by the inventor. In action it is perfect. On the other hand, no cottager or artisan need want for an effective super-clearer of the same type who has sufficient skill to knock up a box lid, with a rim about two and a half or three inches deep, made to fit the top of his hives. In the platform of this "lid" a couple of circular holes are bored, and into each of these holes is fixed—point downward—a cone, made of perforated zinc, costing about a penny. So long as there is a space of about an inch between the point of the cone and the tops of the frames, the bees will not return after passing through. This clearer is good enough for any ordinary purpose. Personally, we simply tack a thin board on the "eke," used for giving space below combs. Fix the cones as above, and our "clearer" is made.

Referring to feeders, it is pleasing to note that appliance-makers see the futility of attempting to make feeders of wood which can be relied on year after year to "turn water." We have now given a trial to the "Warwick" first-prize feeder, and in use it quite comes up to the expectation we formed of it at the show—in fact, it realises our idea of what an appliance for this purpose should be. The "trough," of tin, is water-tight; the bees stand on rough, unplaned wood while feeding, and the central portion is readily removed for cleaning, or for allowing the trough to be used for scraps of comb "cappings," &c, requiring to be cleared up by the bees.

ANOTHER PROPOSED HONEY AND APPLIANCE COMPANY.

Our attention has been called by several subscribers to the prospectus of a company which it is proposed to form under the title of "The Apiary Products and Appliances Supply Association, Limited," with a capital of 20,000*l.* in 1*l.* shares. According to the document before us, "The Company is formed for the purpose of purchasing and carrying on the business of Messrs. A. & H. Timberlake, honey and wax merchants." After the failure of former attempts to establish successful companies on the above lines, even when guided by practical men, this last attempt shows an amount of hopefulness on the part of the promoters in which we cannot share, especially as, with the exception of Mr. Timberlake (as the manager), none of the directors, so far as we know, have had any knowledge of bees or their products. We therefore recommend that our correspondents will make full inquiry before investing.

We have not been favoured by the promoters with a copy of the prospectus, and it is only by favour of certain of our readers that any information regarding the proposed company reaches us. It is also noticeable that, although the prospectus contains a statement that a contract has been entered into between certain parties, no names are given, nor does the date of the contract referred to appear.

LANCASHIRE AND CHESHIRE B.K.A.

The show of this Society was held on August 31st and September 1st in connexion with that of the Wirral and Birkenhead Agricultural Society at Birkenhead. There was a liberal schedule of prizes, which brought forward a good collection of honey, and in one of the classes there were twenty entries. In the class for sections some very nice even lots were shown, but some were not quite so nicely completed as those taking prizes. With few exceptions, the extracted honey was uniformly good. Especially we noticed No. 1095 in Class H, exhibited by Mr. H. Banner, which was remarkable for its density, colour, and rich flavour, and easily took first place. No. 1095 came next, with a very fine specimen of honey, not quite so dense as the first-prize one, and of not quite such fine flavour. There were several lots of beautiful, clear, amber-coloured honey, but they lacked flavour and density to be amongst the prize-winners. The appliance classes were very disappointing, and there was evidently some misunderstanding as to Class A, or there would not have been such a difference in the exhibits shown. This class was for a complete outfit for any one wishing to commence to keep bees. In this class frame hives and extractors were excluded. The object of this class is evidently to encourage persons of small means and little leisure to keep a few bees on humane principles, and to produce honey in a marketable shape. Only two out of the four exhibits complied with these requirements, and the judges awarded first prize to an exhibit containing a skep with rack of sections all enclosed in an outer case, which was convertible into a frame hive. The lot was on a stand, and had a cover so that the bee-keeper, when he chose, could change from the skep to movable frame hive. There were a few other necessaries, the whole amounting to 1*l.* 6*s.* 6*d.* The two larger exhibits consisted of a large quantity of necessary and unnecessary appliances, only of use to the advanced bee-keeper who has made himself thoroughly acquainted with bee-keeping and is going in for it on a large scale. The sight only of the quantity of appliances would be sufficient to deter a novice, to say nothing of the cost. It might be well to slightly alter the wording, so as not to have such a diversity of exhibits.

The Judges were Mr. T. W. Cowan and Mr. W. Lees McClure.

It rained and a cold wind blew the greater part of the day, and told adversely upon the attendance, there being very few visitors at the bee-department. It was too wet to attempt any manipulations.

Prize List.

A complete outfit for any one wishing to commence to keep bees.—1st prize, no award; 2nd, P. Harbordt, Liverpool. Best frame hive.—1st, P. Harbordt; 2nd, J. Roe, Poulton-le-Fylde. Best hive, price 10*s.* 6*d.*—1st, P. Harbordt; 2nd, J. Roe. Best exhibition of honey from one apiary.—1st, W. P. Meadows, Syston. For the best twelve to twenty 1-lb. sections.—1st, W. Woodley, Newbury; 2nd, H. Wood, Lichfield; 3rd, W. Pryor, Welwyn; com., J. Palmer, Ludlow. Best twelve to twenty 1-lb. jars extracted honey.—1st, T. Badcock, Gravesend; 2nd, T. R. Horton, Much Wenlock; 3rd, W. Corkhill, Liverpool; 4th, H. W. Seymour, Henley-on-Thames; certificate, J. Ravenshaw, Shrewsbury; com., W. Woodley. Best twelve to twenty 1-lb. sections, gathered in Lancashire or Cheshire.—1st, J. Roe; h. com., G. W. Carr, Fleetwood. Best twelve to twenty 1-lb. jars extracted honey, gathered in Lancashire or Cheshire.—1st, H. Banner, Neston; 2nd, J. Roe; 3rd, G. Robb, Barnston. Best beeswax.—1st, Miss S. Cooper, Leicester; 2nd, J. N. Fell, Finsthwaite; 3rd, J. Hale, Croston. Novelties and useful inventions.—1st, P. Harbordt, for new pattern manipulating tent; 2nd, W. P. Meadows, for new (heather) honey press; 3rd, W. P. Meadows, for new double cone super-clearer.

SCOTTISH BEE-KEEPERS' ASSOCIATION.

Honey Show at Edinburgh.

The above show was held on the 7th and 8th instant, in the Waverley Market, and Sir Thomas D. Gibson-Carmichael, Bart., who is named (in the catalogue of exhibits of the above show) as Hon. Secretary, is to be congratulated on the great success of his under-

taking, especially when it is stated that the Association was only formed in April, 1891, and allowance has to be made for the unfavourable honey season in the greater part of Scotland, as well as the north of England, in 1892.

The full details of entries and prizes awarded given below will show that what ought to have been a very large feature, viz., heather honey, was a very small exhibit.

The Caledonian Horticultural Society, whose autumn show was being held in the market, have been accustomed to offer prizes for honey for many years at the corresponding show in each year, but now that the Scottish Bee-keepers' Association have got to work, the Horticultural Society propose in future to give up their own honey classes, and assist the Bee-keepers' Association in every way they can with space, money, and friendly feeling, so that the honey department of the Caledonian Horticultural Society's autumn show may be worthy of the admirably adapted premises in which it is held, and further increase the large numbers who visit the show.

A sumptuous luncheon was provided and well served at the "Royal British Hotel," to which about fifty sat down, provided over by Sir Thomas D. Gibson-Carmichael, and nothing could exceed the kindness with which the Judges of the honey classes were received. The writer would much like to see a county association honey competition held in connexion with one of these autumn shows in Edinburgh similar to the one held at South Kensington a few years back. If we could only have a good honey year, such a competition would be bound to be a success, as all the surroundings are favourable for such a display.

Sir Thomas is an enthusiast, and spares neither time nor money to makes the Association a success, and at the same time he tries to educate a popular taste for bee-keeping in country districts.

The total entries numbered 119, of which ninety-six were staged.

A sign of the poor season in Scotland was observable in there being no entries in four of the five classes for extracted honey.

The following gentlemen were appointed Judges:—Mr. W. Lees M'Clure, The Lathams, Prescot, Lancashire; Mr. W. Archibald, of Firlands, Forres; Colonel Bennett, of Alloway Park, Ayr; Rev. R. M'Clelland, The Manse, Inchinnan, Paisley; and Rev. Macduff Simpson, The Manse, Edrom, Berwickshire, and awarded the prizes as under:—

List of Awards.

Comb Honey.—Best display of comb and extracted honey.—1st prize, J. D. M'Nally; 2nd, S. Roebuck; 3rd, J. M'Creath. Best design in honey-comb.—1st, J. Kerr; 2nd, S. Roebuck; 3rd, J. D. M'Nally. Super, not being a sectional super.—1st, W. Brown; 2nd, S. Roebuck; 3rd, J. D. M'Nally. Super of flower honey, over twenty pounds.—1st, John M'Creath; 2nd, S. Roebuck. Super of flower honey, over ten pounds.—1st, S. Roebuck; 2nd, J. M'Creath; 3rd, W. Sword. Super of heather honey, over ten pounds.—1st, W. Brown. Super of flower honey, not exceeding ten pounds.—1st, S. Roebuck; 2nd, J. D. M'Nally. Super of heather honey, not exceeding ten pounds.—1st, W. Brown. Octagonal super of flower honey.—1st, S. Roebuck. Twenty-one 1-lb. sections of flower honey.—1st, J. M'Creath; 2nd, S. Roebuck; 3rd, T. Sells. Twelve 1-lb. sections.—1st, T. Sells; 2nd, J. M'Creath; 3rd, W. W. Pryor. Twelve 1-lb. sections of heather honey.—1st, R. Ballantyne. Twelve 2-lb. sections.—1st, S. Roebuck. Six 2-lb. sections.—1st, S. Roebuck; 2nd, C. N. Craik. Three 2-lb. sections.—1st, S. Roebuck; 2nd, T. Sells; 3rd, C. N. Craik. Thirty pounds run or extracted flower honey (liquid) in 1-lb. jars.—1st, J. M'Creath; 2nd, S. Roebuck. Twelve pounds run or extracted flower honey (liquid) in 1-lb. jars.—1st, Rev. R. M. Lamb; 2nd, J. M'Creath; 3rd, W. Sword.

Cottagers' Classes.—Six 1-lb. sections of flower honey.—1st, J. M'Donald; 2nd, J. M'Creath; 3rd, S. Roebuck. Six 1-lb. sections of heather honey.—1st, A. Anderson; 2nd, R. Ballantyne. Three 1-lb. sections.—1st, J. M'Donald; 2nd, S. Roebuck; 3rd, J. M'Creath. Three 1-lb. sections of heather honey.—1st, R. Ballantyne; 2nd, J. D. M'Nally. Six pounds of extracted honey in 1-lb. jars.—1st, J. D. M'Nally; 2nd, M. Mackenzie; 3rd, J. M'Creath. Six pounds extracted heather honey in 1-lb. jars.—1st, J. M'Donald; 2nd, J. D. M'Nally. Three pounds of extracted honey in 1-lb. jars.—1st, J. D. M'Nally; 2nd, J. M'Donald. Three pounds extracted heather honey in 1-lb. jars.—1st, withheld; 2nd, J. D. M'Nally. Three 1-lb. sections of honey, to become the property of the Scottish Bee-keepers' Association.—1st, W. W. Pryor; 2nd, W. Sword; 3rd, J. M'Donald.

NOTTS BEE-KEEPERS' ASSOCIATION ANNUAL SHOW.

The yearly display of honey, &c., of this important Association was given in connexion with the Greasley Agricultural Show, and this, also, is an aggregation of the Greasley, Selston, and Eastwood Agricultural and Horticultural Societies. We suppose this is on the basis that "United we stand; divided we fall," for stand they do. In the heart of estates belonging to Earl Cowper, it is gratifying to find such an excellent understanding between all classes, and such a capital exhibition of farmers' and gardeners' produce. Most satisfactory of all was it to find such an association of enthusiastic bee-keepers, and it has never been our lot to see more friendly intimacy and goodwill, in spite of the keenest rivalry, almost reaching to disagreement in its earnestness. This is as it should be amongst us—we can agree to differ, and differ to agree. The Notts bee-keepers seem *brethren*, even if, like other brethren, they do not all think alike.

All our readers who call to mind the severe

accident to Mr. A. G. Pugh, of the Notts B. K. A., last year, will be glad to learn that he has so far recovered as to resume his avocation as an active hon. secretary.

The judge was Mr. R. A. H. Grimshaw, and Mr. C. N. White was engaged as lecturer, whose services were utilised by the judge in assisting him to award the prizes for honey, the entries being so numerous that it was more than one man's work to give such a capital show its due.

After the awards were given by the judge, six candidates for third-class experts' certificates were examined by him. Nothing remains to be said but that the staging, space, and exhibits were worthy of a Royal Show, with the exception of the class for appliances (makers, please note).

PRIZE LIST.

Collection of appliances.—1st prize, R. W. Pett, Nottingham. Best hive.—1st, W. P. Meadows, Syston; 2nd, A. W. Pett. Observatory hive.—1st, P. Scattergood, jun., Stapleford; 2nd, W. Brooks, New Eastwood; 3rd, G. H. Merrick, Hucknall. Best twelve bottles of honey.—1st, A. G. Pugh, Beeston; 2nd, J. Wilson, Langford; 3rd, H. Merryweather, jun., Southwell; 4th, Mrs. Hind, Papplewick; 5th, F. H. K. Fisher, Farnsfield. Best twelve sections.—Viscount St. Vincent, Norton Disney; 2nd, F. H. K. Fisher; 3rd, Mrs. Hind. Best granulated honey.—1st, R. W. Pett; 2nd, J. Wilson; h. com., J. Stokes, Harby; h. com., Viscount St. Vincent. Best frame of honey.—1st, Mrs. Hind. Best beeswax.—1st, J. Wilson; 2nd, Viscount St. Vincent; com., M. Lindley, Newthorpe. Bee-driving.—1st, T. S. Elliott, Southwell; 3rd, H. Hill, Ambaston; 3rd, A. G. Pugh. Amateurs' sections.—1st, J. Finn, Basford. Amateurs' run honey.—1st, J. Finn; 2nd, J. J. Taylor, Nuttall.

BROSELEY AND DISTRICT HORTICULTURAL SOCIETY.

The first exhibition of this Society, of which the Reverend Lord Forester is President, was held in the Town Hall, Broseley, on August 31st and September 1st, and proved a great success. In addition to fine exhibits of flowers, fruit, and vegetables, the bee-keepers of the neighbourhood made a goodly display of honey in various forms, the whole of which was tastefully staged, and presented a most pleasing and attractive appearance. Mr. J. Edmund Roden, of Oldbury, Bridgworth, officiated as judge.

PRIZE LIST.

Best exhibit of honey in any form.—1st, P. Scott; 2nd, G. Fisher; 3rd, E. Oakes. Twenty-four bottles of extracted honey.—1st, P. Scott; 2nd, E. Oakes; 3rd, G. Fisher. Twenty-four 1-lb. sections.—1st, P. Scott; 2nd, G. Fisher. Six 1-lb. sections.—1st, E. Oates; 2nd, Mrs. P. Scott (Rudgwood). Six 1-lb. bottles run honey.—2nd, Mrs. A. Scott; 3rd, Mrs. P. Scott. Best bell-glass.—1st, Mrs. P. Scott. Beeswax.—Equal first, P. Scott and G. Fisher; 3rd, E. Oakes. The following were exhibited, "Not for Competition:"—Hive and appliances, E. Oakes; Honey-comb design, "1892," diagrams and lantern slides (micro-photographs), J. E. Roden; and observatory hives stocked with bees, P. Scott.—*Communicated.*

ANNUAL SHOW OF THE BISHOP'S STORTFORD B.K.A.

The above show was held in connexion with the Horticultural Society's Flower Show.

The show of honey was a decided improvement on last year, both the extracted honey and that in comb being pronounced excellent. The Bishop's Stortford and District Bee-keepers' Association has, since its formation, done good work in encouraging the keeping of bees, and the competition which annually takes place at this show proves that their efforts are appreciated.

Miss Gayton, of Much Hadham, officiated as judge in the honey classes, and awarded the following

PRIZES.

Open Classes.—Cap or super of honey: 1st, E. Bury. Honey in comb, in any form: 1st, W. Bentley; 3rd, W. Marfleet and J. Race, equal. Crate of twelve sections: 1st, W. Bentley; 2nd, G. W. Sworder; 3rd, E. Rumble. 1-lb. bottle of honey: 1st, E. Rumble; 2nd, J. Race; 3rd, W. Marfleet.

Members only.—Twelve sections: 1st, W. Bentley; 2nd, W. Marfleet; 3rd, J. Race. Ten 1-lb. sections and two 5-lb. bottles of extracted honey: 1st, W. Bentley. 1-lb. bottle of run honey: 1st, J. Race; 2nd, G. W. Sworder and E. Rumble, equal; 3rd, W. Marfleet; h. com., Rev. W. J. Frere.

Labourers and Cottagers only.—Beeswax: 1st, W. Bentley; 3rd, W. Marfleet.

New Members' Prizes.—For comb honey: 1st, E. Rumble.

CO-OPERATIVE HONEY SHOW AT THE CRYSTAL PALACE.

In our report of the above show last week we omitted to mention that a series of lectures accompanied by demonstrations with living bees was given at intervals during the day, in the grounds outside the Palace, by Mr. Jesse Garratt, Hon. Secretary of the Kent B.K.A.

Mr. Garratt's remarks were listened to with much attention by a good number of persons, who clustered round the netted enclosure, within which the manipulations were carried out, the interest taken in the subject dealt with being evinced by the questions put to the lecturer by onlookers during the course of his address. It

is hoped that the bee department of the show will continue as interesting at future exhibitions as in that of 1892, which was a decided all-round success.

The silver medal of the Co-operative Horticultural Society was also awarded to Mr. E. M'Nally, for an interesting display of bee-products and miscellaneous goods, in which honey formed a main ingredient.

TECHNICAL EDUCATION IN BEE-KEEPING.

County Council Lectures.

We print below (from p. 27 of the second edition of the Annual Report) the form of Syllabus suggested by the Committee of the British Bee-keepers' Association, for the use of lecturers giving instruction under the auspices of such of the County Councils as have made grants in aid of technical education in bee-keeping.

Section I.—Natural History of Bees.

1. The Three Constituents of the Bee Community.
2. Some leading features of the Development and Physiology of each of these, and the functions of the special organs of each.
3. The Habits and Offices of Queens, Drones, and Workers respectively.
4. Their Dwellings: (1) in nature; (2) under domestication.
5. Their Products: Honey, Wax, "Bee-bread," and Propolis.
6. Swarms—Natural and Artificial.

Section II.—Establishment of an Apiary.

1. Installation in favourable locality, as regards wind, rain, abundance of honey-yielding plants, &c.
2. Choice of various Races of Bees—Black, Ligurian, Carniolan, &c.
3. Purchase of Stocks or Swarms, according to season of year.
4. Hives, Skeps, Movable Frames, Supers, Sections, &c.
5. Appliances of various kinds: Smokers Feeders, Veils, Gloves, Comb Foundation, &c.

Section III.—Practical Apiculture.

1. Preparatory Work: Examination of Stocks, securing their strength, &c.
2. Monthly operations in Apiary.
3. Loss of Queens; Removal on account of Age; Queen-rearing; Introduction of young Queens.
4. Diseases and Enemies of Bees; Means of Cure and Protection.
5. Extracted Honey; Honey in Sections and other Supers.
6. Putting up Honey in Bottles, and in Section Cases.
7. Domestic and Medicinal Uses of Honey; Value of Wax.
8. Relation of Bees to Flowers and to Fruit Crops.

Lecturers will find it advisable to compress or expand this Syllabus according to the length of the course of lectures, and the class of audience they may have to address.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of August, 1892, was 5732*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FOUL BROOD.

[1146.] I send you an account of a case of foul brood and its successful treatment, which, addressed to me privately, seems to deserve a place in your columns. The writer is one of the many successful bee-keepers to be found in East Anglia, and especially in Essex.—E. Bartrum, D.D., *Wakes Colne Rectory.*

"I read with great interest your letter on foul brood (1089, p. 284) in the *B. B. J.*, and can fully endorse it. I will instance a case I had in hand. This was, to all appearance, a very weak hive, and when examined early in spring, had but very little healthy brood, so that by the second week in May the stock only covered five frames—bees and brood as well—when, on looking over the combs, I found it was attacked with *Bacillus alvei* rather badly, so, as the bees refused to take down syrup, medicated with Naphthol Beta, I took an empty comb, and filled it with the syrup on both sides, and I then placed this between the brood combs, and when I saw it nine days later, I found the cells cleared of syrup, and full of healthy-looking larvæ, except an occasional cell or two. I repeated the dose, using another empty comb, and did not see the bees again for two or three weeks, when I found they were doing well; in fact, I was tempted to place sections on the hive, though little thinking I should have any filled. I had, however, nine nice finished sections from that hive, and it is now very strong in bees. But into every hive

that I handle, I have put some of the naphthaline balls inside all through this season. I think if bee-keepers took more precautions of this kind, there would not be so much of this pest. I always carry diluted carbolic with me, and use it on my hands and clothes liberally after looking at a foul-broody stock.

"I also think that if it was more generally know how useful a thing it is to put a small piece of camphor, crushed, along with rag or paper in the smoker, we should not hear of so many stings from bad-tempered colonies of bees. —F. H. BRENES."

BEE-DRIVING AND MESMERISM.

[1147.] The other day I was asked by a neighbour of mine to assist him in driving some box hives from which he wanted to take the honey. For some years I have been in the habit of giving him a hand at "driving-time," but last year I happened to be from home at that season; he had therefore to undertake the job unassisted. He got through the performance all right, but in doing so had an experience which I am inclined to think will prevent him from doing much bee-driving in future. Without further preface, I will "tell the tale as 'twas told to me" by my friend and his wife.

He had several hives to drive, but nothing unusual happened till he took the last one in hand, when, to use his own words, "a strange feeling came over me;" his memory left him, his sight became somewhat impaired. When spoken to by his wife, he answered in a dull, mechanical way, as if not fully comprehending what was said to him, and from that time onward he seemed to do everything in an absent-minded, mechanical fashion; in short, he seems to have been overcome by some subtle and powerful influence. As before mentioned, he got through the bee-driving successfully; but nearly twenty-four hours had elapsed before he quite recovered the use of his memory, &c., and ceased to feel the effects of the mysterious influence.

The incident caused his family some alarm, as they feared that there might be something seriously the matter with him; but, happily, their fears were unfounded, as no ill effects whatever followed.

The only explanation of the occurrence which I can offer is that, in driving the bees, he had somehow managed to mesmerise himself.

I believe it is the practice of certain professors of that "art" to cause their "subjects" to mesmerise themselves by gazing steadfastly at some small bright object, such as a metal button or a coin; others accomplish the same object by making a series of movements or passes with their hands in front of the "subject's" face. Now, my theory is that, looking steadily through a veil at the moving mass of bees would, if continued for a certain time, have the same effect on a person very susceptible to the mesmeric influence as gazing at a bright coin or other object would have; and, again, that the somewhat monotonous rap, rapping, on the sides of the hive necessary in driving might also have a similar effect on a sensitive "subject."

The foregoing is given merely as a suggestion, and I would be very pleased to have your opinion, as I have neither heard nor read of a similar case. I may mention that my friend is a total abstainer, using neither stimulants nor tobacco.—J. C., *Springholm, Dalbeattie, N.B.*

[We should think the singular and very extraordinary effect produced was due to excitement—caused by driving several lots of bees—on an unusually nervous temperament, rather than to anything like mesmeric influences. Why does not your friend adopt the frame hive, and so do away with the need for "driving" to obtain his honey? —EDS.]

BEE-NOTES FROM IRELAND.

[1148.] It may seem strange for bee-keepers to erect decoy bushes to catch their swarms. I tried the experiment in 1884. One morning, previous to leaving home, I cut a whitethorn bush and erected it in centre of potato patch. On my return the wife exclaimed, "Three swarms lit in the bush, and as soon as I had one hived another came out, and only I hived them quickly they'd have knitted together and we'd have lost them in the end." Where bee-keepers have no suitable alighting-bushes, it is a good plan to get some sort of bush and trim the stem as they do standard gooseberry and currant bushes in Germany. They trim so as to pull the fruit without backache. The lower branches should be lopped off to prevent bees getting amongst them. Where bees settle low down on the ground amongst potato stalks or tall grass, they may be hived by placing any form of receptacle over them. Some people appear to think that bees can only be hived in a skep, and, when they see a swarm, will go two or three miles for a skep, to find on their return the swarm decamped. I consider that, if possible, every swarm should be left till sundown before being hived in a frame hive, as when manipulating such swarms before then I have frequently had to use the garden pump to keep them quiet.

Do you know, I begin to think that section racks, or crates, are only a nuisance, and will cease to be used altogether by me before long. I tried two hives, holding forty-five sections, laid flat across the frames (open-ended). The hives consisted of body-box, super-case, and roof. They stood amongst eight others supered with Bentholl's and ordinary crates. I used dividers one-eighth of an inch thick between every row of four. On July 7th the whole flat was filled, and sold at 11*s.* 6*d.* per dozen.

I consider super-clearers all moonshine where you have a big job before you and time is precious. They may do well enough for the "Paddy-go-easies" that everywhere abound, but give me five minutes at any hive, and I'll soon move the bees from their honey quietly, I know, whether they require much smoke or not, and use as little as I can amongst sections, fearing smell of smoke. Well, I am commencing at

No. 1 hive with forty-five sections laid directly on the top of frames. I have my basket containing dividers and combed sections. I take out the first and second rows; in go the new sections, first row, and up with a divider, and so on. I leave the five sections on end till all is over. I lift divider and five sections clean out every time. I then place an inclined plane to front of hive, and brush out all adhering bees, and on to No. 2 I go. It takes two persons to carry away the honey once I begin. All moonshine about placing full sections on top of empty ones. The bees will carry down in time of dearth. If you are a busy man, put on ninety sections at once, and let them take their chance. I am managing a lot of ten hives for an "old timer" past ten years, and he puts on enough at once, and whether they are fit or not he gives them the same law, and lets them swarm or not, according to their own sweet will. He asked me the "tip" about selling swarms, and I told him to offer them to one of your "smart people" located here. He arranged for the latter to pay him 2*s*. 6*d*. per pound for swarms, and the account was to be settled at end of season. He sent up several of six, seven, and eight pounds each, but, to crown all, the last one weighed twelve pounds, and so he got 30*s*, for a July swarm. I suspect to make up this *prime swarm* three or four small ones went together. He never touches the lower frames at all, and hence no chilled or any other brood lost. Leave bees once properly summered up alone till they require further attention. Use a veil and only manipulate when bees are not flying much about. —J. Traynor, *Tinahely, Ireland.*

TUNISIAN BEES.

[1149.] Acting on the injunction of the great Apostle of the Gentiles to "Prove all things," I am making an attempt to carry it out with a sort of competition between different races of bees. I have seven hives in my apiary, three of which I have pitted against each other. They consist of (1) English (driven bees of last year), (2) Ligurian Hybrids, and (3) Tunisians, or, as some falsely call them, Punics. As near as possible, all were of equal strength; age of English queen unknown, the other two were home-bred last year. Results thus far:—English, fourteen well-finished sections, and twelve more nearly completed. Ligurians, twelve sections, not yet perfectly sealed over. Tunisians, ten sections nearly full, rather thickly sealed over, and lavishly propolised, the thick felt druggeting I placed on the top of crate also being fastened down with it. The Tunisian queen was received last year as a virgin, consequently she is not pure bred. Now I do not want to condemn too hastily or unjustly till I have given them another trial—possibly the next cross may prove better honey-gatherers and more docile; but I cannot bear out the testimony of Mr. E. Root, p 310 of *B.B.J.*, as to their irritability of temper, as I have found them as quiet as my others, which are fairly satisfactory in that respect. I handle the frames, with bees clinging to them, of each hive very gently, use no smoke, and only carbolised cloth when taking off a super, &c. I can truthfully say that much of my success as a bee-keeper is due to Mr. "Useful Hints," as he has a happy knack of suggesting what next should be done a week or so before the thing occurs to myself. I have had a better season here than last year; more bees, more honey, and less stings. Other bee-keepers about here tell the same tale.—H. Crawley, *Kingston-on-Thames.*

[As there is probably very little Tunisian blood in No. 3 stock, it may account for the quietness of the colony.—Eds.]

Queries and Replies.

[642.] *Bees Fighting when being "United."*—I have two stocks of bees in frame hives, which have not swarmed for two or three years. They have not done well this season, so I concluded the queens were worn out. I therefore destroyed them, with the intention of uniting a driven lot of bees to each stock. Well, a few evenings ago I united them in the following way: I first smoked the bees in each hive, and, after spraying the combs and bees with essence of peppermint, shook out the bees from the skep on a platform in front of each hive, first wedging up the front to allow the bees more room to get in. They all went in before dark, and seemed all quiet about eight o'clock. An hour later I went again to the hives and listened, when I found there was a great uproar in No. 1, while in No. 2 all was still quiet. The next morning I found all the driven bees outside No. 1 hive dead or dying. This slaughter continued till I believe every one of the driven bees were killed. But No. 2 still remained perfectly quiet, and have been ever since. I looked for the queen, but have not found her. Do you think she escaped the slaughter? What puzzles me is, that one lot killed the bees and the other took to them quite friendly. To the best of my ability, I served both lots exactly alike. Can you enlighten me on the subject? Also what to do to quiet them if such a thing happened again? Many thanks for "Useful Hints" in reference to old foundation. I find it answers very well, and it is useful to know these things. For myself, I do not consider it quite honest of dealers to palm off old foundation on their customers.—G. Benford.

Reply.—It is quite impossible for us to account for perfect success in one case and entire failure in the other. The wonder, rather, is that both lots of driven bees were not all killed. According to the account given above, the bees of the stock in frame hive were sprayed with essence of peppermint instead of with thin syrup scented with the essence; then the driven bees were apparently not sprayed at all! so that the

principle of giving both lots of bees the same scent was lacking.

[643.] *Packing Bees in Skep for a Rail Journey.*—I have a straw skep of bees hived on the 28th of June. At the end of September I wish to move it a distance of seventy miles by rail. The mode of packing I intend adopting is as follows:—In the evening, after the bees are in, to tack perforated zinc over entrance for ventilation, and next morning stand skep and floor-board inside a strong box, also ventilated, and screw all down. I shall travel by the same train, and should be able to see them into the luggage van and receive them at the end of journey. 1. Is the end of September a suitable time to move them? 2. Is thirty hours' confinement likely to prove injurious? 3. Will the first week in October be too late to feed with syrup after placing them in their new position?—ANTI-SULPHUR.

REPLY.—1. It would be very risky to do as you propose. Get a square of coarse cheese-cloth or "scrim" canvas, and set this below the skep on the evening before starting. Early next morning tie the canvas securely so that no bees can escape, then turn the skep bottom upwards, and with a strong cord for a handle carry it so to the end of the journey. When placed on the permanent stand prepared for it, give the bees liberty at once by loosing the canvas, but do not remove the latter till next morning. You may possibly be able to take it into the carriage in which you travel, but if not get the guard to fix it up in a safe corner of his van, bottom upwards. 2. Yes, unless plenty of ventilation is afforded. 3. It will be late enough, but not too late.

A MANSE BURNED DOWN THROUGH BEES.

The parish church manse of Dyce, near Aberdeen, was destroyed by fire on August 25th. Messrs. Matthews & Mackenzie, architects, Aberdeen, were employed to carry out extensive repairs on the building, and these were almost completed. The joiners had been requested to dislodge a stock of bees which had taken possession for a number of years of a portion of the roof over one of the windows, their honey-combs being constructed in enormous numbers upon the wood or sarking beneath the slates. To accomplish their object the men lighted a piece of oily waste for the purpose of "smoking out" the bees, and by cutting a hole, inserted it below the roof. The bees offered a vigorous resistance, and several stung the intruders, who had to beat a retreat. On returning shortly afterwards the men discovered that the waste had been fanned into flame and set fire to the wood. The whole roof was ablaze in a moment, on account of the old and dry nature of the timber. The lower part of the manse was also soon burning fiercely. The workmen were helpless to cope with the fire, and the Aberdeen brigade, which was summoned by telegraph, drove to the scene in charge of Firemaster Anderson. By the unwearied efforts of the brigade, the basement and ground floor were partially saved, though greatly damaged by water. The bedroom floor and the attics, together with the roof, were completely destroyed. Roughly the damage is estimated at 500*l.*—*Scotsman.*

REVIEW OF CONTINENTAL BEE-PAPERS.

BY J. DENNLER.

(*Concluded from page* 352.)

3. *Bulletin de la Société d'Apiculture de la Somme.*—*Echinops sphærocephalus.*—Echinops is derived from two Greek words which mean having the appearance of a hedgehog. Sphærocephalus is devised from two Latin words which mean round-headed. This is a honey-yielding plant of the family *Compositæ*, and nearly related to the thistles; it flowers in July and August. The leaves are sinuate-pinnatifid spinose, and the flowers of a light blue. Echinops has been much praised in America. M. Bertrand, of Nyon, says it might be a stimulant to bees. Bees visit it from the dawn of day until night. [This plant has been over-estimated, and has been shown to be of little value as a honey-plant.—EDS. *B. B. J.*]

4. *Bulletin de la Société d'Apiculture du Tarn.*—A very true proverb of the country (Belgium): If bees had no stings, we should soon have no more bees.

5. *Bulletin horticole, agricole, et apicole de Liège.* Published by Jules Belot.—*Italian bees.*—All those who have cultivated Italian bees in Belgium have found them very prolific. The queens, during a good honey harvest, develop their breeding powers in a most extraordinary manner, so that during the summer the hives of Italians contain at least double the bees than those of the common bees. When the time comes for taking the honey they say there is hardly any in the hives to take; another characteristic is that they are more sensible to cold, and perish more readily than the native bees. The same may be said of Carniolan bees, which even surpass the Italians in extreme prolificness.

Provisions.—M. Ed. Bertrand teaches that from the end of March to the commencement of the principal honey harvest (last half of May) a colony of bees will require at least from 12 to 13 kilos. (about 26½ to 28½ pounds) of provisions, and as the yield of honey during this period from willows, elms, maples, fruit-trees, colza, &c., is too variable and uncertain to be depended upon, the bee-keeper will do well to watch the provisions during this period, and give the bees sufficient in excess of their actual needs.

6. *Le Bulletin apicole* (organ of the Society of the Meuse basin) publishes the following recipe for the malady known under the name of *Influenza.* Take a handful of lime blossoms, in-

fuse them for half an hour in four cups of boiling water. Dissolve three spoonfuls of pure honey in each cupful of this liquid, swallow it as hot as possible, and go to bed in a well-warmed room. Be careful to use white honey, gathered by the bees during June and July, and not heather honey, and on no account falsifications made from glucose.

The Belgian Hive compared with the German.—The Belgian hive contains twelve frames, which can be lifted out at the top, thus giving great facilities for their examination, and no special appliance is required for this purpose. Our neighbours, on the contrary, have twenty, thirty, and even more frames in their hives, with the result that the manipulations are long, difficult, and even attended with danger. In overhauling, all the frames are withdrawn successively, and are arranged on a frame-carrier, *ad hoc* indispensable; the whole of the colony, therefore, is outside the hive. One must admit that this process is not without danger to the colony and the bee-keeper. In addition, a large number of appliances are required that are unknown to those who use large frames.

THE SO-CALLED PUNIC BEES.

Last fall I bought a virgin queen of the so-called Punic bees; she proved very prolific, and wintered well. They were the first bees to take in pollen, and bred up very fast, and were the first to swarm; but they have not the most honey. Some of my Italian hybrids are the first with the honey. The Punics are ahead of all the bees I have when it comes to stinging. They are the meanest bees to work with I ever saw. I intend to pinch the queen's head off and replace her with an Italian.

I see, on page 138, that Mr. Cowan, editor of the *British Bee Journal*, has found that Punic is only a new name for Tunisian bees. I would like to ask if the Tunisian beees have been tried in this country, and what their characteristics are. Let others give their experience with the Punic bees—some of our leading bee-men—and if they are "no good," say so, and inform the bee-keepers of the country, that they may invest in something more profitable.—C. P. McKinnon *in* "*American Bee Journal.*"

Bee Shows to Come.

Sept. 17th.—Great Honey Show of the Berkshire Bee-keepers' Association at Reading.

Sept. 17th.—Roxburghshire B.K.A. Show of hives and honey at Jedburgh. Entries closed. Thomas Clark, Secretary, Pleasants Schoolhouse, Jedburgh.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. T. Nickels.—The firm referred to is, we believe, a highly respectable one. You should write again, and urge immediate delivery of the goods.

C. H. S. (Gravesend).—*Antiseptic Quilts.*—In the letter to which you refer, Mr. Howard states that he has himself supplied the material to bee-keepers for years past. We also note that it is advertised for sale in our columns, and we have no doubt that Messrs. Abbott Brothers would supply it.

Box (Feltham).—*Giving "Cappings" to Bees.*—The best way of getting bees to clean up "cappings," scraps of comb, &c., is to use a rapid feeder with movable central portion. These are specially made for your purpose. Your proposed plan will not answer.

G. Wells (Aylesford).—*Colour of Staging for Honey.*—We do not think anything looks better than lavender-tinted colouring, used on the staging of the B. B. K. A. It is better than graining or oil painting in any shape. When soiled it is easily recoloured, and looks fresh again. There should be no background to staging. Honey looks best when it has the light behind as well as in front.

R. French (Leamington).—*Queens and Fertile Workers.*—The bee sent is a queen and is by no means the smallest we have seen. Fertile workers are not distinguishable from ordinary workers.

Duncan McDonald (Whitemin).—If the sugar sent caused your bees to be troubled with dysentery last year, we should certainly not use it again; but if your grocer guarantees it pure cane, it is not for us to gainsay him, though we should try another quality of sugar.

Mouche-à-Miel.—1. Most probably the drones will be killed off shortly now that the queen has commenced laying. 2. Yes.

A Novice (Maidstone).—It was certainly a curious experience to buy a secondhand hive, placed it temporarily in back yard till you got time to carry it home, and, before doing so, find it, two days later, taken possession of by a swarm of bees. Anyway you got the swarm cheaply, and made a lucky beginning at bee-keeping. If the super has honey in it, it should be removed at once, and the bees fed till they have altogether about twenty pounds of stores in the hive below. Read the *Bee-keepers' Guide-book*, advertised in our pages.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The eleventh annual show of the D.B.K.A. was held in connexion with that of the Derbyshire Agricultural Society at Derby on September 7th and 8th in the show-ground of the latter. Rain interfered somewhat with the success of the gathering on the opening day, but altogether the attendance was good. The entries in the several classes in the bee department numbered sixty-four, viz., eleven of bees in observatory hives, forty-one for comb and extracted honey, and thirteen for beeswax.

While the past bee-season in Derbyshire has been much below the average, so actively has the work of the Association been carried on that public interest in the pursuit is fully maintained, and the bee-keepers of the county are entitled to considerable credit for the display of produce made, as was also Mr. W. T. Atkins, the hon. secretary, for having got together and staged the exhibits. It was quite refreshing to see so many as eleven excellent observatory hives, stocked with bees, on view, all belonging to "members only," and constituting a capital class. We think, however, that the Committee would act wisely in throwing the whole into one class instead of separating English and foreign races as they do, seeing the "English" bees staged were all more or less hybridised with the foreign element. The whole of the honey and wax classes are, we notice, confined to members residing within the county. Among these, too, a distinction is made, those paying the higher rate of subscription not competing, in some cases, against cottagers, and *vice versâ*. The keenest competition was, as usual, in the two classes for extracted honey, some capital samples being staged, and no fewer than twelve of the twenty-two entries in these classes receiving either prizes or commends.

Mr. W. Broughton Carr undertook the judging, and made the following awards. Mr. Carr afterwards, on behalf of the B.B.K.A., held an examination of candidates for third-class certificates at the apiary of the Hon. Secretary of the Association, Mr. W. T. Atkins.

PRIZE LIST.

For the best stock of English bees in observatory hive.—1st, J. Clarke, Marlpool; 2nd, C. Clarke, Loscoe Grange; 3rd, C. Wootton, Draycott. For the best stock of foreign bees in observatory hive.—1st, C. Clarke; 2nd, J. Stone, Little Cubley; 3rd, J. Clarke. Best twelve 1-lb. sections.—1st, R. Giles, Etwall; 2nd, T. W. Jones, Etwall. Best exhibit of comb honey, not less than twelve pounds.—1st, T. W. Jones. Best twelve 1-lb. jars extracted honey (for members paying 5*s.* per annum).—1st, C. Wootton; 2nd, C. H. Dyche, Burton; 3rd, F. W. Brown, Staunton-by-Dale; 4th, R. Giles; h. com., W. G. Sale, Smisby; com., F. Walker, Derby, and W. T. Atkins, Derby. Best twelve 1-lb. jars extracted honey (members paying 2*s.* 6*d.* per annum).—1st, J. R. Bridges, Harstoft; 2nd, R. Bridges, Harstoft; 3rd, G. Thornhill, Allport; 4th, J. Heath, Etwall; h. com., F. Livermore. For the best exhibit of honey in any form.—1st, C. Wootton; 2nd, A. Cooper, Normanton; 3rd, W. T. Atkins; 4th, J. Stone; h. com., R. Giles. Best 1 lb. beeswax (selling class).—1st, J. Stone; 2nd, W. G. Sale, Smisby, Ashby-de-la-Zouch. Best 1 lb. beeswax (members paying 5*s.* per annum).—1st, J. Stone; 2nd, T. Poxon, Lockington. Best 1 lb. beeswax (cottagers only).—1st, J. R. Bridges.

BERKSHIRE BEE-KEEPERS' ASSOCIATION.

HONEY SHOW AND "NATIONAL COMPETITION."

The above show, held in the Corn Exchange, Reading, on the 14th inst., was a very pronounced success. In fact, it may be questioned whether any previous exhibition of bee-produce held this year has resulted in so good a display in many respects, several of the classes being conspicuous by their general excellence.

Of bees and appliances there were few, Messrs. C. Redshaw and T. A. Flood carrying off the awards between them, the latter taking first for a stock of bees in observatory hive with an excellent exhibit. Following these came several miscellaneous classes, that for collections of bee-flowers being especially fine; indeed, we have hardly seen such an equally good and complete collection of named specimens anywhere this year as the first and second prize ones. Quite a novelty also was the class for "Best display of receptacles for table honey," and a remarkably fine display the first-prize one of Messrs

Watson Brothers was, comprising, as it did, most beautiful specimens of porcelain, glass, and costly china articles for holding honey. The second-prize lot was also good. Space will not allow of more than a passing notice of several other exhibits among the extra classes, notably those for "Honey applied as food and confectionery," and, in a less degree, that for "Honey applied as beverages," each of which obtained a silver medal, as did also the magnificent collection of bee-flowers staged by the well-known seed-growers, Messrs. Sutton & Sons, Reading.

Coming to the honey classes, it is a matter of regret that lack of space prevents us from mentioning the many fine exhibits among those staged; besides, with so much of general excellence, it would be invidious to particularise. Whoever originated the idea of a "Great National Competition Open to all Bee-keepers in Great Britain," as the schedule has it, surely possesses a natural genius for show-management —at least, we may assume that the judges so felt when faced with a list of close on to three hundred entries on which to adjudicate. Surely this is a "record" in the way of entries! at any rate, those in the class for one jar of honey must be, seeing that they alone reached a total of 133 separate exhibits.

The wisdom of such a competition is, we think, open to question, for if the much-to-be-pitied gentlemen who acted as judges possess any consciences at all, surely they will doubt the possibility of their having done full justice to all the samples of honey examined and tasted! We wonder what can be left of the delicate sense of flavour necessary after having tasted samples of honey hundreds of times over in so short a space of time? Anyway, we must suppose exhibitors to be sufficiently charitable to credit them with having done their best, and spared no pains in arriving at a correct decision. The task was an onerous one, and it was, we think, laboriously and conscientiously gone through.

The honorary officials of the Berks B.K.A., headed by the indefatigable Hon. Secretary, Miss E. Carr-Smith, are to be congratulated on the almost phenomenal success of their show, and certainly it is well deserved, for the completeness of the arrangements by means of which the exhibition was managed left nothing to be desired.

The judges appointed were the Revs. R. Errington and W. E. Burkitt, Mr. Jesse Garratt, and Mr. W. Broughton Carr, the following being the official list of awards:—

PRIZE LIST.

Open Classes.—Best observatory hive: 1st prize, T. A. Flood; 2nd, Miss R. Carr-Smith. Best collection of hives and appliances: 1st, T. A. Flood. Best movable-comb hive: 1st, C. Redshaw; 2nd, T. A. Flood. Best and cheapest frame hive: 1st, C. Redshaw; 2nd, T. A. Flood. Best section rack: 1st, C. Redshaw; 2nd, T. A. Flood. Best honey-extractor (price to be a consideration): 1st, C. Redshaw (the "New Windsor," price 14*s.* 6*d.*); 2nd, T. A. Flood (the Raynor," price 1*l.* 10*s.*). Best sample of thick comb foundation: 1st, T. A. Flood; 2nd, C. Redshaw. Best sample of thin foundation: 1st, C. Redshaw; 2nd, T. A. Flood. Best rapid feeder: 1st, C. Redshaw; 2nd, T. A. Flood. New invention: 1st, T. A. Flood ("Porter bee-escape"); 2nd, Mrs. Berrett (honey strainer). Best collection of honey applied as food and confectionery: 1st, Mrs. Darvill. Best collection of honey applied as beverages: 1st, Tunbridge & Wright. Best collection of honey applied as medicine, &c.: 1st, Bonny & King. Best collection of bee-flora: 1st, Miss A. Young; 2nd, F. W. Leslie; 3rd, H. Attfield. Best receptacles for table honey: 1st, Watson Brothers; 2nd, W. Brown.

Local Classes.—Best display of honey (not to exceed 112 lbs.): 1st, W. Woodley; 2nd, A. D. Woodley. Best twelve 1-lb. sections: 1st, W. Woodley; 2nd, L. Inwood; 3rd, B. Lawrence. Best six 1-lb. sections: 1st, B. Lawrence; 2nd, — Worsfold; 3rd, J. Lund. Best super of honey (not sectional): 1st, G. Head; 2nd, Major Thoyte; 3rd, L. Inwood. Best six 1-lb. jars of run honey from apiaries of not more than five stocks: 1st, C. J. Lawrence; 2nd, — Worsfold; 3rd, R. Maher. Best twelve 1-lb. jars of granulated honey: 1st, H. W. Seymour; 2nd, A. L. Cooper; 3rd, T. A. Flood. Best 12 lbs. of run honey: 1st, H. W. Seymour; 2nd, W. Woodley; 3rd, L. Inwood. Best beeswax: 1st, Rev. J. Routh; 2nd, W. Woodley; 3rd, H. W. Seymour.

Special Classes.—Best exhibit of comb and extracted honey (exhibited by agents of the B.B.K.A.: 1st, Bonny & King; 2nd, F. W. Paxman.

National Competition.—(1) Best section of honey: Silver cup, W. Woodley; 2nd, J. Anderson; 3rd, J. Macdonald; h. com., S. Bailey; com., T. R. Histon, T. J. Durant, C. Whiting, and A. D. Woodley. (2) Best bottle of run honey: Silver cup, Rev. R. Lamb, Burton Pidsea Rectory, Hull; 2nd, W. M'Nally; 3rd, R. Muir; h. com., J. Macdonald, T. J. Durant, W. Hogg, L. Inwood, and J. Chambers; com., Rev. J. A. Kempe, H. Wood, F. S. Fletcher, H. W. Seymour, and H. Attfield.

Mr. Jesse Garratt, one of the judges, had assigned to him as his portion of the day's labour the examination of several candidates for third-class experts' certificates, the proceedings taking place at the apiary of Mr. Flood.

HEREFORDSHIRE B.K.A. HONEY SHOW AND FAIR AT HEREFORD.

The Herefordshire Bee-keepers' Association held its eighth annual honey fair and competition on Wednesday, September 7th, in Hereford Butter Market. The competition was keen throughout the various classes. The honey fair also was a great success, and it was calculated that the total weight of honey on the stands was 16½ cwt. The sections were remarkably good. Most of the extracted honey was of a

very light amber colour, evidently collected from clover. This fetched the highest price, usually 1*s.* the pound jar; but some, said to be very delicately flavoured, was priced at 1*s.* 3*d.* Other honey, which was darker in colour and thicker, ranged down to 8*d.* per pound. There was a brisk demand for the honey all through the afternoon. The growing success of this fair and competition, and of the Association, must be exceedingly gratifying to Mr. Alfred Watkins, the hon. secretary and promoter, and to Mr. Joseph Thomas, the local secretary. Mr. Burt, of Gloucester, was judge, and made the following awards:—

Best exhibit of honey, not exceeding 200 lbs.—1st, Mr. J. H. Wootton, Byford; 2nd, Mr. J. Tomkins, Burghill; 3rd, Mr. M. Meadham, Huntingdon. Best twelve 1-lb. jars extracted honey (open).—1st, Mr. Pritchard, Bucknell; 2nd, Mr. W. Smith, Thinghill. Ditto (novices).—1st, Mr. Palmer, Ludlow; 2nd, Mr. Anning, Little Birch. Best twelve 1-lb. sections (open).—1st, Mr. J. H. Wootton, Byford; 2nd, Mr. Palmer, Ludlow. Ditto (novices).—1st, Mr. Palmer, Ludlow; 2nd, not awarded.

BRAMALL FLOWER AND HONEY SHOW.

The above show was held in the grounds of Bramall Hall on Saturday, September 10th. The afternoon being beautifully fine, large numbers availed themselves of the opportunity, not only of viewing the show, but of again visiting the splendid park and grounds surrounding the Hall. The owners, Mr. and Mrs. Greville, with an admirable sense of the duties of their position, are ever ready to assist any movement which tends to the elevation and benefit of the masses; they have gone even so far as to permit the use of the magnificent entrance-hall of their fine old Elizabethan mansion for the delivery of winter lectures connected with the technical education scheme of the County Council. The good feeling thus engendered no doubt had much to do with the success of the show, for, as some of the exhibitors expressed it, though the season has been a bad one for them this year, and they had little chance of winning a prize, they still considered it their duty to stage what honey they had in recognition of the efforts of those who were mainly instrumental in promoting the show. What a pity that this spirit of recognition is not more largely diffused amongst bee-keepers throughout the country! Surely those who labour hard for the benefit of others in promoting shows at great personal inconvenience, loss of time, and expense, deserve a little hearty recognition of their efforts at the hands of those who alone profit thereby, and this recognition can only be practically demonstrated by making entries freely.

The exhibits were admirably staged by Mr. Slater, the indefatigable Local Hon. Secretary of the Lancashire and Cheshire B. K. A.

Mr. P. Harbordt, of Liverpool, officiated as judge.

After the judging, Mr. Harbordt lectured and gave practical demonstrations with bees in the bee-tent to a large audience.

A splendid display of fireworks in the evening closed a most enjoyable day in the country.

List of Prizes.

Best twelve sections.—1st prize, H. Bradbury, Mobberley, Knutsford; 2nd, A. W. Rollins, Stourbridge; 3rd, Miss Florence Dutton, Cheadle, Hulme. Best twelve jars of extracted honey.—1st, A. W. Rollins; 2nd, J. Greenhall, Lancaster; 3rd, H. Bradbury. Best twelve jars of extracted honey (local).—1st, J. H. Glover, Bramall; 2nd, J. Bell, Davenport; 3rd, E. Broughton, Wilmslow. Best beeswax.—1st, A. Horton, Alderley; 2nd, J. N. Fell, Newby Bridge, Ulverston; 3rd, H. Bradbury. Best six glass jars of extracted honey, six to twelve pounds.—1st, J. H. Glover; 2nd, A. Jennings, Little Warford; 3rd, W. Worthington, Mobberly. Honey trophy, not for competition.—H. com., A. W. Rollins.

THE PROPOSED NEW HONEY AND APPLIANCE COMPANY.

We alluded to this proposed Company last week, on page 355, and on Tuesday, the 13th inst., we called at the office and asked the Secretary to let us see the contracts entered into. He referred us to the solicitors, on whom we next called, and the principal being absent the managing clerk said he knew nothing about the contracts, but would find out if we would call again on Thursday. This we did, and were informed that they had no contracts. We stated that there were certain contracts mentioned in a prospectus bearing their name, and that we were legally entitled to see these contracts. Being referred back to the Secretary, we requested him to show us the contracts, and were informed that the prospectus had now been withdrawn. It may interest our readers to know that we were told that there had not been a single application for shares in this Company.

A COUNTY COUNCIL BEE STORY.

The following little story is absolutely true, and is given to us on the authority of the County Councillor referred to.

When the proposal to allot 50*l.* to a certain Bee-keepers' Association came before the County Council, it occasioned some little discussion during which the phrase "Bee-keepers' Association" was often used. At last it was put to the vote, and carried *nem. con.*; but one of the members, who was unfortunately a little deaf, and had not quite grasped the object of the vote, lifted up his hand in favour, and after the vote was taken, he turned to our informant and said, "*What's the use of voting 50l. to the Beef-eaters' Association?*" So that, although he mixed up

"*bee-keepers*" with "*beef-eaters*," he voted for the grant, and we must charitably suppose that he would not have been deaf to the claims of bee-keeping had his hearing been better.

ANNUAL EXCURSION OF WORK-PEOPLE.

The annual outing of the men and boys employed by Mr. T. B. Blow, Welwyn, took place on Wednesday, August 24th. The party, which numbered between twenty and thirty, were driven to catch the early train to Portsmouth, which was reached at 10.45, and they next proceeded by boat to Ryde, Isle of Wight, where they had dinner, and afterwards inspected the various places of interest in the town. Returning to Portsmouth in the afternoon, the dockyard was visited, and after partaking of a substantial tea, the men dispersed in small parties for boating, bathing, and sightseeing. The return journey was begun at eight o'clock, Ayot station being reached about midnight, the excursionists having thoroughly enjoyed the day's outing, and the only regret was that all the men could not accompany them on account of pressure of business.

PUNIC (OR TUNISIAN) BEES.

Frank Benton Gives his Opinion of Them after Trying Them.

[Enclosed you will find a clipping from the *American Farmer* (Washington, D.C.) Evidently such a well-known authority as Frank Benton knows what he is talking about, and the sooner bee-keepers in general know the facts of the case the better it will be for them.—M.W. Shepherd, *Rochester, O., May 19th.*]

Many bee-keepers will want to buy queens of some one of the better races this spring to improve their stock. At the present time the choice lies practically between the Italians and Carniolans. The former have been known for over thirty years in this country, and are very generally recognised as superior to the common brown bees. The Carniolans have grown in favour very rapidly since their introduction, less than ten years ago, largely on account of their uniting, to the same general good qualities of the Italians, far greater gentleness, enabling timid bee-keepers, ladies, and young people to manage an apiary with much greater safety and pleasure than formerly; also, they winter the best of any race, and their combs rival in whiteness those built by any other race.

Another race of bees has recently been advertised under the name of "Punic" bees, the queens having been offered at from $1.50 to $50 each. The former price is for unfertilised queens; $5 is asked for fertilised queens, $10 if purely mated; $40 if selected, and $50 for such as are said to have been imported from the native land of this wonderful new race, which, according to the claims of the advertiser, unites all the virtues that one could possibly imagine as belonging to bees, with none of their faults. As the writer happens to have been the first to call general attention to this race of bees under the far more appropriate name of Tunisian bees (Tunis being the native land of the race), and as he has had considerable experience with them in Tunis, and also in several other countries, he may be allowed to express an opinion as to their merits and demits. The former are soon told, for the Tunisians (or Punics) are industrious and prolific, somewhat more so than any race of bees coming from Europe, but rather less so than the eastern Mediterranean races (Cyprians, Syrians, and Palestines). But their faults make a list! They are small and very black; are spiteful stingers, as vindictive as the worst race known; bite in addition to stinging; are great propolisers, daubing hives, sections, and combs lavishly with "bee-glue;" they swarm as much as do Carniolans, and winter as poorly as do Palestines. Most people will think the genuine imported queens are a trifle extravagant at $50 each, especially those who remember that, in 1885 and 1886, just such queens were offered at from $4 to $10 each, direct from Tunis, Northern Africa. Millionaires who keep bees will, of course, buy "Punic" queens at $50 each for all of their hives, although they wouldn't look at Tunisians a few years since at $4 and $10. But the rest of us will plod on with bees whose queens cost us from $1 to $5 each, and that are chiefly noted for giving us honey, money, and pleasure in handling them.—Frank Benton *in "Canadian Bee Journal."*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* Mr. J. Huckle, *Kings Langley, Herts (see 1st page of Advertisements.)*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE COLOUR OF HONEY.

[1150.] As often as the show season comes round the vexed question is raised, In how far should the colour of honey influence the decision of judges?

No doubt great difference of opinion on the point exists, and I would, with your permission, invite discussion of the subject in the *B.J.*, and, to set the ball rolling, allow me to express my own humble views.

In my opinion honey should not be judged by colour at all, and any judging where colour is

taken into account I should describe as faulty. Some people have a fondness for red, others for green or yellow or blue. Can it be said that red is prettier than blue, or green more attractive than yellow? So, in honey, some may prefer it almost colourless, some have a fondness for amber, and others, again, admire a rich brown. Personally I know some who buy in preference green sycamore honey. Who is to decide which shows the best taste as regards colour? Colour is so much a matter of personal preference that argument on the point is perfectly useless. It has been repeatedly suggested in your columns that at future shows separate classes should be instituted for light and dark honey. Is, in the light class, the prize to go to that honey which nearest approaches the colour of water, and in the dark class to that which most resembles the colour of soot? On the face of it, this appears absurd. Honey being an article of diet, its chief value lies in its nourishing properties, which are recognised by its *consistency* or *density*. Food, however, must not only be nourishing, but also palatable; agreeable to our olfactory and taste organs. Hence, next in importance to consistency must be placed *aroma* and *flavour*. These latter properties are largely influenced by the treatment which honey receives after extracting. An admixture of bits of wax and pollen-masses often spoils an otherwise good sample. Honey should therefore be strained, preferably through flannel, prior to bottling. Honey thus treated, though possibly dark in colour, will be clear, therefore *brightness* should be taken into account when judging. Judges, of course, should always make due allowance for cloudiness, which arises purely from granulation.

The next point which merits consideration on the show table is *get-up*. The bottles should be scrupulously clean, of attractive shape, and made of good material. Of these various points, those which will give rise to the greatest diversity of opinion are aroma and flavour. Just as impossible as it is to dictate to any one which colour he shall consider the prettiest, so it is equally impossible to lay down the law as to which aroma and flavour shall be considered the choicest.

To place on the table, side by side, such widely differing samples as clover and heather honey, puts both judge and exhibitor into a false position, and the result must be misleading to the public at large. To adjudicate under such circumstances is like pronouncing on the relative merit of mushrooms and asparagus, mutton chops and beefsteaks, patchouli and attar of roses. To decide which is the best of six chops, or of six steaks, &c., would be intelligible and not over-difficult. In the other case I could well excuse a judge were he to refuse to act, and if he actually gave a decision, however conscientious and honest, it would mean absolutely nothing but his own personal preference of taste.

Bearing in mind the widely diverging qualities of honey, and the slow gradations by which one frequently merges into the other, it might at first sight appear that there is no way out of the difficulty; but though this difficulty, I am afraid, cannot be entirely and absolutely overcome, there is still a way of materially smoothing the path of both judge and exhibitor. This may be easily done by dividing honey into classes in accordance with its origin.

In this country the most distinct sources of supply are clover and heather. The bulk of the production, however, is *mixed flower honey*. The latter, therefore, is, from the point of view of our industry, the most important, and yet how has this important product generally fared at our shows? Owing to the leaning of judges either to clover or heather honey, it has met with but scant recognition in the past. How often very fine samples belonging to this class have been entirely overlooked, and whenever dissatisfaction is expressed at shows it is generally due to this fact. There can be no doubt that this dissatisfaction has greatly militated against the success of our shows, as it has discouraged bee-keepers from competing.

To divide honey into "light" and "dark" classes does not get rid of the difficulty, for the mixed honey would still be at the mercy, on the one hand, of the clover honey, and on the other of the heather honey. Besides, who is to say at which particular shade the light honey ceases to be light, and the dark honey begins to be dark? If this dividing line is not clearly and absolutely defined so as to be perfectly intelligible to all, I can only see in the arbitrary division between light and dark a source of greater confusion and disappointment than ever. I would therefore suggest that at all future shows honey be divided into three classes, to be denominated:—

(*a*) Clover honey.
(*b*) Mixed flower honey.
(*c*) Heather honey.

It would not be necessary to exclude from classes *a* and *c* samples which might not be pure clover or heather honey; the judge would simply award the prizes to samples which exhibited in the most marked degree the characteristic aroma and flavour of clover or heather respectively, providing that the exhibit, especially in the case of clover, were not found conspicuously wanting in the main value of honey as food—that is, in consistency or density. There would, of course, still be room for great diversity of individual opinion as regards the mixed honey; but this most important class, being freed from the competition of almost pure clover and heather honeys, it would be possible to adjudicate upon it in a more generally satisfactory and intelligible manner than is possible at present.

I would also suggest to those show committees, who in the future might feel disposed to act upon the lines here indicated, to place conspicuous placards over each class bearing the words: Clover Honey, Mixed Flower Honey, Heather Honey. I believe that this would materially assist exhibitors in disposing of their produce. There is nothing more common at

shows than inquiries from the general public as to the reason of the diversity of colour in the honey staged; the little information conveyed by the placards would probably induce many to make several purchases, where now only one sample is bought. Seeing that first and other prizes are equally awarded in all classes, honeys would come into favour which now are viewed with prejudice by the ignorant.—P. HARBORDT, *Liverpool.*

[Since our correspondent pointedly invites discussion, we withhold our own views for the present for obvious reasons. Otherwise, we should have been very pleased to say a word on the subject dealt with. In the meantime we will be glad to have the opinions of bee-keepers for publication in our pages. We may, however, say at once that in leading shows separate classes are always arranged for heather honey as being distinct from any other, all experienced judges agreeing that comparison is impossible where there is none. In fact, the line between what is called "flower honey" (which includes clover) and that from heather is as broadly drawn, as regards *colour*, *aroma* and *flavour*, as—to use a common expression—it is between "chalk and cheese."—EDS.]

NOTES BY THE WAY.

[1151.] Following precedent I will note the weather first, and for the past fortnight it has been grand for the ingathering of the cereal crops, and our friends the farmers have made the most of the fine weather, and have stacked or housed the bulk of the harvest, only a few isolated backward fields still remaining to be gathered in, and the past spell of settled weather has given the bee-keeper an opportunity of feeding up stocks that require help, of securing driven bees to strengthen weak stocks or start new ones, and also of painting hives to render them weather-proof later on in the year, when the wintry winds blow and the rain comes down in torrents. Then the careful bee-keeper, who has made all taut and trim, will have the satisfaction that all is well, while the careless procrastinator will blame himself for the neglect, and his stock will suffer in consequence.

Thanks, Messrs. Editors, for your timely warning *re* Honey and Appliance Company. I trust our readers will read your note on page 355 very carefully, and give the matter full consideration before parting with a penny.

There seems a tendency on the part of bee-keepers to take preventive measures in respect to the foul-brood question. The late sanitative wave that has passed, and is passing now, throughout Europe to prevent the cholera germs getting a footing in our own and other countries, should show us bee-keepers the need of prompt and sustained action in dealing with the germs of foul brood, the germs of which have secured a foothold in many of the apiaries scattered throughout the country, rendering the pursuit of bee-keeping no profit or pleasure to the owners, and a source of danger and loss to neighbouring bee-keepers. The state of affairs, I repeat, requires prompt action, and if sanitation is so efficacious to prevent the spread of, and sterilise other germs of similar character, surely we should give thorough sanitation of our hives and appliances a trial; yes, an extended trial, to see if united action cannot stamp the pest out of the country.

The present position of bee-keeping is, I am sorry to say, menaced by this foul-brood question, and the intercourse that exists, with the facilities we have of sending queens, swarms, and stocks from one part of the country to another, is a source of great danger. If a district is free from foul brood this year, who can say it will be the same next year? Some neighbour may buy queens, stocks, or swarms from a distance, and there is a possibility of the disease being purchased with the bees. Now, if such should be the case, this may introduce the germs into an apiary that in a short time may propagate and spread to neighbouring apiaries. Now, it is just in a case of this kind that remedial measures will prevent its spread. The best-known germ-killer at present is naphthaline, which is cheap and very easily applied; two or three pieces may be dropped into each hive between the combs, and Naphthol Beta should be used in all food given to the bees, and if any difficulty is experienced in getting the bees to take it down, a comb can be taken from the hives and the medicated food poured from a small jug into the cells, and the comb replaced, when the bees will soon clear it up and store for future use. I have heard recently of bees covering the lumps of naphthaline with propolis. This must be guarded against, or it will be rendered of no effect; it will not resolve if air is excluded from it. Hives should also have a thorough cleansing whenever any trace of the disease has been known to exist—a good washing with carbolic soap, and then paint with a strong solution of carbolic acid every crack, crevice, and joint, and then fumigate with sulphur; a couple of the old-fashioned bee-destroying brimstone matches will complete the job. Burn one as the hive stands; then invert the hive, and burn the other. A piece of tin, or even a saucer will prevent the hive being burned with the match. When I sat down I intended saying something on our show and new bee-appliances, &c. These items I will return to another week.—W. WOODLEY, *World's End, Newbury.*

UNDUE INTERFERENCE.

[1152.] In your *Journal* of last week among your "Useful Hints," you mention over-manipulation and undue interference as very detrimental to success in bee-keeping. I should like to endorse that from my own experience. I have kept bees for the last seven or eight years, and altogether I consider myself very successful. This year from two hives I have had 118 pounds weight. Last year from three hives I had 120 pounds, and I do not think that this year, or last year either, I have spent more than an hour

altogether in looking into the hives or putting them straight. I have never seen a queen but once, and that was some years ago, and I know nothing of foul brood. I take care that they have plenty of stores for the winter; but, as regards anything else, the bees know their business better than I do.—J. S. D.

DRIVING CONDEMNED BEES.

[1153.] Advertisement and correspondence alike show that driving *condemned* bees is already rife, and the observant bee-keeper will again be pained to see so many thousands of bees, on the plea of humanity, *really* condemned to a lingering starvation of some months' duration. Surely a little reflection would tell the would-be humanitarians that there is something wrong when three or four strong lots of bees, joined in one, turn out but a poor weak stock in spring; and a little further thought would as certainly point to want of pollen as the cause of so much suffering and disaster. Then, why not give pollen, or some such substitute as pea-flour, and so place the winter stores on a basis as nearly natural as possible? By so doing, the renewal of the tissues, wasted by the exhausting labour of building and storing, would be secured, and the bees would go into winter quarters very little the worse for their spell of labour at an unwonted season. A thick paste of honey and pea-flour, or of syrup and pea-flour, plastered in the combs or between the bars, will answer every purpose, and prevent the deplorable, but, alas! too usual, loss of *young bee* life. Perhaps our Editors know of some simpler and better way of securing the desired result; if so, I hope they will tell it, and oblige —E. B., *September 16th*, 1892.

[The plan we always adopt in wintering driven bees is to give them a few combs containing pollen from other stocks.—EDS.]

BEE-KEEPING AMONGST THE NATIVES OF NORTH AFRICA.

[1154.] In my last letter I promised to give you an account of the conversation I had with an Arab native who thought himself strong in bee-keeping. I will allow my man to speak for himself. He said: "You Christians do not know the value of bees. I will begin by telling you that the honey-bee is a sacred animal, and has been blessed by God. The purchase and sale of hives is a great sin, and a good Mussulman will never do it. It is permitted to make any one who wishes it a present of a hive by receiving another present in exchange. To obtain swarms, empty hives are placed in the brush-wood or forests. These hives are well rubbed with a species of herb that I will not disclose to you. God Almighty makes the swarm that flies about enter the hive, and when it is lodged, the hive may be removed to the apiary, or a new apiary may be started on the spot. This place must be kept very clean, and the owner of the bees should manipulate them, or in his absence, a brave man, but never a woman—her presence would be the ruin of the apiary. If the hives belong to several persons, either to brothers or associates, it is absolutely necessary that these people agree on all points regarding the bees; the slightest dispute results in a worm taking possession of the hives, and some time after, instead of combs, webs will be found similar to cobwebs. Good bee-keepers and raisers of bees are rare, and few know how to commence. Here is the best way of getting honey. When the hive is well furnished, cut out three to six combs of brood; this reduces swarming, and the bees occupy themselves with building beautiful combs filled with honey. I take these and the bees build again, and a few months later I can remove more, and if the season is a good one, I do this when two or three swarms have left. This number of swarms is sufficient, and if they swarm more the swarms are very small, and there is no honey. A large number of bees sleep outside the hives, either on trees or in the flowers during their flowering. They work at night as well as in the day. If you want to alter the position of a hive or remove it, you must wait till Thursday evening, as this is the only night on which they reunite in their hives. On the command of the Almighty, they return to their hives on the eve of Friday, the day consecrated to God by His Prophet.

"In the olden days an old bee-keeper was going on a pious pilgrimage to Mecca, but before leaving he took care to mark his bees by sprinkling flour over them, but what was his astonishment to find that his own bees had arrived before him at the tomb of the Prophet.

"Now, we are not so successful as we were formerly, because we are governed by Christians."

I said, "You see, I get good results from my bees.'

"Ah," he said, "you are a sorcerer; you compel the bees to work as much as you like, to build their combs in frames, take out the honey without crushing the wax; this is because you are all republicans, you succeed with the help of evil spirits, and at the last judgment all the bees will come and complain against you, because you have compelled them to work differently to what was intended by their Creator."

This is what this old fanatic related to me. These people are, and will always remain, blind enemies of all advancement and all civilisation. Judge from this if anything can be done with these barbarous and stupid people. Their religion teaches them that the bee is a sacred fly, but they steal and destroy more than one hive during the year. It is hardly a month ago since some malefactors stole from us seven double hives, which they carried about 100 metres away, and drove the bees out by means of smoke from a large heap of burning cow-dung, broke up the combs, and carried away wax and honey. The laws are too lenient for

such people, and France should have followed the American plan. It is very well to say, "Sweet land of liberty," but the Redskins disappear, and in a short time it can be said, "and he was not."

My brother Philip has arrived with his family and bees at Nice, and Emile leaves us for Palestine to fill the void occasioned by the death of my poor brother Willy, and I shall move with my apiary to Kabylia.—JEAN BALDENSPERGER, *Algeria, September 7th.*

THE S.B.K.A. AUTUMN SHOW AT EDINBURGH.

BY A STRANGER.

[1155.] One of the first things to catch the eye of a visitor to the Royal Caledonian Horticultural Society's Show, as he entered the Waverley Market, Edinburgh, on Wednesday or Thursday, the 7th or 8th inst., was a large white banner at the further end of the hall displaying the device, "Scottish Bee-keepers' Association." If the visitor was a bee-keeper (and there were a good many of this description present) he walked in a bee-line in the direction of the banner. I chanced to drop in on Thursday evening, and, being a bee-keeper, at once began elbowing my way through the crowd, to the lively measures of the *Mikado*, towards the west end, where the exhibits were artistically arranged on a long table. At one end was the honey raised up on tiers against the light, and at the other end were laid out numerous interesting articles of bee-furniture, many of them foreign, and each with a descriptive ticket attached. The honey exhibits had been judged the day before, and were now arrayed in red, black, or green cards, to denote first, second, or third prize, and the greater number of them were marked "sold." The bulk, I noticed, was bought by large brother grocers in Edinburgh, and was on full show in their window on Friday morning, set off with County Down heather and red cards only.

In the rear, on another table, were exhibited a number of water-colour drawings—all lucidly explained, the work of Lady Gibson-Carmichael, showing the relation between bees and flowers. This section was particularly interesting, and, what with an observatory hive, a brilliant display of tempting honey in sections, supers, and glass jars, some very marvellous designs in honey-comb, a splendid collection of bee-plants, and several highly finished frame hives from Stranraer steam factory, the apiarian department of the show formed a very pleasing diversion for those tired out with gazing at lycopods, and palms, and cypripedia.

The prize list was a very large one—thirty-eight different classes for honey, and about 60*l.* in money prizes. Mr. Sydney Roebuck, Dumfries, had evidently overcome his catastrophe at Stirling last year, for he was the largest exhibitor, having entered in eighteen classes, and carried away a number of firsts. Mr. John M'Creath, also from Dumfries, was another of the most successful competitors.

A lucky exhibitor was Mr. M'Nally, all the way from Ireland, who had a prize in nine of the ten classes he entered his name for. Not a few were surprised to see such fine heather honey from the land of Erin—it being a common idea that there is no heath across the channel. Upon the whole the heather honey from all parts was not up to the average in appearance and finish, owing to the bad weather, but than the flower-honey sections nothing better could be wished for.

A great amount of interest was centred in a gigantic model of a worker-bee at the appliance end of the table. At intervals a goodly group, with mouths agape, would gather round Sergeant-Major Hill as he took asunder and described the several parts of the model. The demonstrator gave colour to his lecture from time to time with a number of humorous anecdotes. One old woman, presumably a non-bee-keeper, who happened to pass by shortly after one of these periodic lectures had wound up, took a long scrutinising look at the huge Parisian model, and, turning to the "gudeman" at her side, remarked with considerable emphasis, "That's a fleein' fush o' some kin'" (That's a flying fish of some kind).

Not a few expressed a wish to clap eyes on the genial founder and Hon. Secretary of the Association, and were much disappointed on being told that he was not to be seen; he had visited the show the day before and set the ball rolling. But if Sir Thomas was not present in the flesh, he was there, thanks to the camera, in cabinet size, and this was some consolation to his admirers.

Altogether the S. B. K. A. is to be congratulated on the success of its autumn show. The Association, with Sir Thomas Gibson-Carmichael at its head, has already done a great deal towards enlightenment in bee affairs and in stimulating its members and others to advancement in the fascinating art of bee-keeping.—BIZ E. BEE, *Perthshire, September 12th.*

A BEE CASE.

[1156.] I enclose you an extract from the *West Sussex Gazette* concerning a somewhat amusing case of "A Swarm of Bees."

Judge Martineau seems to be at sea with regard to the law on the matter. I trust I am not asking too much if you would kindly, through the medium of *B.B.J.*, inform what the law really is in such a case. Fortunately, bee-keepers in my district treat fly-away swarms as a matter of honour between man and man. I have in many cases proved it so, having no difficulty in getting my swarms returned, and I am only too happy to return others when they pay me a visit.—FRANK REED, *Sussex.*

"Some from our village (Burpham) went into Arundel on Tuesday to be present at the hearing at the County Court, before his Honour Judge Martineau, of the action between John Stroud and

Elias Page, both living in the village, in which Stroud claimed 30*s.* value of some bees and a box. Mr. E. B. Wannop, of Chichester, appeared for the defendant. Plaintiff conducted his case in person, and caused some amusement by the way in which he called his witnesses. 'Come on youngster!' he called out across the court, when it was his son's turn to enter the box, and when three more sturdy Burphamites had crossed the floor to speak up for him, a good laugh was afforded by Stroud's scratching his head in uncertainty as to 'whether there be or bean't another.' Defendant has been a keeper of bees for many years, and on the 23rd of May, some of his bees went away on a swarming flight, and David Upperton, and Henry Hall, who followed them, saw them enter a box used as a hive in plaintiff's garden. To get the swarm out of the box was impossible, and after as they alleged, but which plaintiff denied, making overtures for the purchase of the box, and even the sale of the bees, Upperton and Hall walked away with the box and its contents. Plaintiff sued for the value of the box, to meet which the defendant had paid 5*s.* into Court, together with 1*s.* damage to the garden, and the rest of the 30*s.* was claimed for some bees which were in the box before defendant's bees arrived. Plaintiff called his wife, two sons, Amos and John, and Harry Ford and Harry Budd, to prove that there were bees in the box prior to the 23rd. Mr. Wannop contended that there were no bees in the box prior to the 23rd, in support of which Thomas Netley, of Wepham, who had kept bees for fifty years, affirmed that if there had been bees in the box, the others would never have swarmed in it. His honour expressed a doubt as to the right of the defendant to take the box away, or even to follow the bees. Mr. Wannop maintained that it was a well-established custom to follow the bees; in fact, the ringing of bees was, he believed, done to warn people that the owners were following them. As to taking the box, if the bees had swarmed on a tree in plaintiff's garden, defendant would have a right to cut off the branch the swarm was on, provided he paid damages. His Honour said that if that was the law it was strange, and he reserved judgment till next court, in order to find out the law on the subject."

[We know of no law which goes beyond what has several times appeared in our pages already, viz., that if a swarm is not lost sight of from the time it leaves the hive until it settles, the right to secure the bees can be claimed by the owner from the person on whose premises the swarm may be at the time of making the claim, and if that right be refused, the owner may claim its value.—Eds.]

OVER-MANIPULATION AND LOSS OF QUEENS.

[1157.] Thanks for your remarks in "Useful Hints" of September 15th *re* Over-manipulation.

The other day I was sent for to examine an apiary. The first hive I examined was queenless, but had three queen-cells on one comb, two on one side and one on the other. The next two were all right, but the fourth was like the first, no queen, but two queen-cells side by side. They had all good queens three weeks before, but the bee-keeper was young and inexperienced, and in my opinion, through his injudicious meddling, he killed both queens. He had evidently a warm time, for on examining his gloves I found scores of stings left by the poor bees, and he acknowledged that he lost his head and was rather frightened, and was therefore not careful in replacing his frames. Do you think that queens leaving the cell after, say, August 20th, might be fertilised, because I saw no drones about?—Hemlock Stone.

[Fertilisation might possibly take place if there were drones left alive in the neighbourhood, but the chances are against it.—Eds.]

BEE-KEEPING IN NEW SOUTH WALES.

[The following interesting letter was received by our correspondent, Mr. G. Wells—well known to readers through his system of working two queens in one hive—from a gentleman quite unknown to him in New South Wales, and, deeming it to be of general interest, he has kindly forwarded it to us for publication. We may also say Mr. Wells has replied privately to the questions put to him, besides forwarding copies of *B.J.* containing references to his system of working bees.—Eds.]

[1158.] Having seen a notice in *Gleanings in Bee Culture* for May 15th ultimo, declaring your reported splendid successes by your plan of having two colonies in the same hive, there being a central division impassable to either queen or bees in brood chamber, but free access to workers of both colonies to the supers, and, having been very much "struck" with this admirable idea of having two queens to each colony, I now write to ask you as a very special favour and kindness to answer me one or two questions which I will arrange *seriatim*.

1. Is there not a great objection to your plan in the risk of one or both queens being killed or maimed sooner or later? If there was this loss constantly threatening and often happening, surely your system could not pay, as the resulting frequent attention to brood nests, supplying missing queens, and introducing them, would "handicap" the apiarist too heavily (at least if he were a bee-keeper on at all a large scale).

2. Will it answer as well to place ordinary swarms in the swarming season side by side in the same hive *à la* your plan as to winter *nuclei* in them, as you seem to have done? I mean, would the former be riskier to the queens, and should you take any precautions to ensure their safety for the first few days, till bees of both colonies became reconciled?

3. The tendency towards swarming seems to be greatly increased by your method. Is it your opinion that this could be checked by extracting from the same combs every week? This is the plan I adopt with my colonies, and but four or five per cent. of them swarm. All my honey is artificially ripened, of course. It takes about ten days here to ripen thoroughly in large shallow tanks (sixteen inches high).

4. How do you manage about the entrances? I am a bee-keeper of some seven years' expe-

rience (though only twenty-two last birthday), and possess at present seventy-nine colonies, mostly hybrid Italian, all on the Langstroth-simplicity frame. The standard English frame is too small for New South Wales. All my queens are reared *à la* Doolittle.

Last season I started with eighteen hives and obtained from these over 7000 pounds of extracted honey. I think no land in the world can compare with some localities in New South Wales for bee-pasturage, but "though the harvest is abundant, the labourers are few." Our honey harvest is just commencing, as the "Red Gums" are starting into bloom. We have no clover honey here to speak of, but our great resource in this district is the scrub flowers (from trees whose names would doubtless sound barbarous to you in England).—*Lismore, New South Wales, June 30th*, 1892.

Queries and Replies.

[644.] *Utilising Driven Bees.*—On August 25th I drove four skeps, and, after joining two lots together, ran them in two frame hives, each furnished with frames of comb and of foundation, and fed well with syrup. I examined them on September 13th, and found sealed and unsealed food along with brood on two frames. On September 2nd I followed exactly the same course with four more skeps, but on looking at the frames to-day neither brood nor eggs were visible, nor could I see a queen, though none has been thrown out. The bees were united by the flour plan, and there was no fighting. Again, on September 5th, I drove five skeps and joined the whole lot of bees together in one frame hive fitted as before. These, also, so far as I could see, have no brood, but the bees were so thick on the combs that it was difficult to see either brood or queen. Thus I have in five frame hives thirteen lots of driven bees, and they have had between them seventy pounds loaf sugar, boiled with thirty-five pints of water, to which have been added vinegar, salt, and salicylic acid solution, in proper proportions. Should I do anything further with them?—J. D., *Strood, September 13th.*

Reply.—Beyond endeavouring to make sure that each stock has a queen, and that the food has been equally divided, nothing further is needed, save packing carefully and warmly up for winter. Some may require a little more food, as about twenty pounds of stores should be left in each hive, after the end of this month, to keep the bees safe till March next.

[645.] *Bees and Brew-houses.*—A few weeks ago a friend of mine who keeps bees about a quarter of a mile from a public-house was sent for on the brewing day. The bees had almost taken possession of the brew-house, and there were hundreds of bees flying about. My friend went again the next day and found dead bees all over the place, hundreds of them. Can you kindly say what caused the bees to be attracted to the brew-house in such large numbers, and why such a great quantity died?—Hemlock Stone.

Reply.—Where bees are kept in the neighbourhood of brew-houses, care is required that lack of food does not send the bees abroad foraging for supplies. The fermenting liquor and the saccharine material used in brewing is the attraction to bees. As to the cause of so many bees having perished, that would easily be explained by a visit to the place when the bees were there.

[646.] *Moving Bees.*—I have a bee-house half a brick thick, with air-space, and then lined with wood; it is intended for eighteen frame hives. I have now four hives in it, and also five in the open garden, about 150 feet to 200 feet distant from the bee-house. Should I be wrong in moving them into it; and if not now, when would you advise it being done?—Sevenoaks, *September 17th.*

Reply.—The removal should take place after a spell of cold has kept the bees indoors for two or three weeks.

Echoes from the Hives.

Holt, Norfolk, September 20th.—So far as I am able to judge, the honey harvest in this district has been quite satisfactory. I drove some skeps in which the comb, all well filled, was fastened to the floor. Skeppists round here are quite satisfied, as swarms have been numerous, and the yield turns out better than they expected. Some few are not *quite* satisfied, but they are few indeed. My bees were slaughtering the drones after second week in this month. Is not this very late? Now they are quiet, and very few are seen about; but I know they have plenty, and have given me plenty too. We have an abundance of heather about here, so that is, I suppose, why our supplies extend so long into the autumn.—J. F. C.

Upper Boat, Pontypridd, September 13th.—The season with me has been a particularly unfortunate one, as the bulk of my honey has been spoiled by a too liberal admixture of honey-dew. The worst of it I have fed back to the bees, the rest I hold in readiness for emergencies. This has been my first experience of the nuisance, and I hope it will prove the last. The appearance of the stuff in the cells was easily noted, and varied, according to the proportion of honey mixed with it, from a light grey in some of the cells to a near approach to absolute black in others. That little "hint" of Mr. Woodley's anent the insertion of the wedge in the groove of the Abbott frame is worthy of being taken. To do as he suggests will render the insertion of the next sheet of foundation easier. Thanks. Another hint in connexion with the same frame. Shorten the wedge by about an inch, and it will

then sink flush with the bar. The curves in the ends of the groove prevent this while using the full length.—J. M.

Honey Cott, Weston, Leamington, September 17th, 1892.—Since my last echo we have had very variable weather, from very hot to very cold, and *vice versâ*, the few hot days coming too late to be of any use to the bees. I have been making up a few stocks with driven bees taken from villages in different directions from my own place. Some had a nice lot of honey, while in another place out of three stocks there was barely a pound of honey. Last night I was out in another direction, and took two lots by bumping. It was too cold for driving—in fact, they would not go at all—so I bumped them, and soon had them out. They had a fair amount of honey; nearly all the brood had hatched out, and in the brood nest there was a lot of unsealed honey, which had been gathered recently. One of these same lots was on a board on the ground, no stand or anything. I picked the board up, and under it was a large toad. I have no doubt he has eaten many a bee in his time. Have got most of the separators and excluders cleaned up ready for another season, which, no doubt, we all hope will be better than the last.—JOHN WALTON.

Bee Shows to Come.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

Notices to Correspondents and Inquirers

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JOHN N. IERSON (Dover).—*Uniting and Feeding Bees.*—1. Whether you have "done wisely" or not depends on what the object was in breaking up the skep to unite the bees to an already strong stock. At present we see no reason for so doing. 2. Stocks which require feeding in autumn should have the food given as rapidly as possible till each has at least twenty pounds of syrup stored. 3. Feeding should never take place in winter.

J. WHITE. — *Wax-extracting.* — We cannot understand your difficulty with the "Gerster" wax-extractor. When the perforated zinc comb basket has been placed in the steamer, the former is filled with comb and the steamer set above the boiler. As the water in the latter boils, the steam arises, melts the combs, and the wax passes through the spout into a vessel containing cold water prepared for it. This is the whole operation, and so simple is it that failure seems impossible.

INQUIRER (Blackheath).—*Race and Age of Queens.*—Queens sent by post in ordinary envelopes, unless well protected, usually reach us smashed out of recognition. In your case, the body is flattened so as to make even a guess at age useless, but she is apparently a well-marked and good specimen of the Ligurian race.

IDLE HOUR (Shepton Mallet). — *Extracting Thick Honey.*—We have never yet seen honey, other than that from heather, too thick for extracting with the "Raynor" extractor, if carefully uncapped and revolved rapidly for five minutes or so. Keeping the frames of honey warm is an advantage. We, of course, presume the honey referred to has not granulated in the comb, otherwise it would explain the difficulty in extracting it.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—A friend just returned from a three weeks' stay in Scotland reports the weather there "wet and very cold," which means a poor harvest from bees at the moors, and, we suppose, a third-rate season for northern bee-keepers generally. This result is much to be regretted, if only for its tendency to somewhat damp the enthusiasm of the supporters of the new Scottish Bee-keepers' Association. Fortunately the management of the Association is in strong hands, and it will no doubt rise superior to the temporarily discouraging influences of a poor season. Here, in the south, we are having fairly fine weather, quite favourable enough to allow of autumn work being got through in comfort, and bees are still flying more or less almost daily.

EARLY CESSATION OF BREEDING.—It will, no doubt, have struck many readers, while examining combs during the last week or two, how completely breeding has stopped in hives where the bees have not been fed for several weeks past; while stocks supplied with food during the time through lack of nectar outside are found with brood on several combs. The differing conditions, however, are but the natural outcome of thoughtfulness or inaction, as the case may be, on the part of the bee-keeper himself. If food is being stored by bees, either from natural sources or supplied to them in the form of syrup, ordinarily prolific queens will continue to lay eggs quite on to the latter end of September; but if there is a cessation of income before the end of July, very little brood will be reared during the remaining months of the season. Many of those who removed heavy supers from stocks in July and August last seem to forget that in doing so they took away all that had been gathered, and that, with no further supply from the outside, hitherto well-provided colonies were thus left much in the condition of famine-stricken populations. Can it be wondered at if such stocks have diminished very considerably in strength; that the combs are broodless, foodless, and the bees almost starving? We say this much in reply to expressions of surprise on the part of correspondents who write wondering why stocks which have yielded well in surplus honey should now be found in the condition described. As a matter of fact, the bees have been deprived of all their stores. Or, to put it in another way, when we remember how little honey will be stored in an ordinary ten-frame brood chamber, and while there is plenty of storage room overhead—the combs below being fully occupied with brood—how natural it is for the bees to carry each day's gathering into the surplus boxes above, the outcome is as clear as daylight. The moral, therefore, is to guard against the effects of robbing the bees so closely as to leave almost starvation behind. Feeding should begin immediately stores run short, and if this is done queens will not cease ovipositing early, as in the cases reported.

PREPARING BEES FOR WINTER.—One of the most important functions which fall to the lot of the bee-keeper is comprised in the above heading, seeing that much of his after-success depends upon the way in which the bees are prepared for the long period of rest and quiet—lasting at least five months—supposed to be their due under natural conditions. Well prepared, the chances are that bees will come out in spring strong and vigorous, with a full reserve of the working power needful to make a colony prosper the following season. By "well prepared" is meant a sufficiency of wholesome stores and proper ventilation, combined with dryness and warmth. Important also, but in a minor degree, follows: Provision for winter passages, contraction

of hives to so many frames only as the bees can cover, pervious or impervious coverings, warm or cool packing, and so on. These latter points, being matters on which competent bee-men hold divergent views, may, however, be attended to or ignored according to circumstances. Personally, we agree with the late William Raitt, who used to say, "The best packing for bees is *bees*." With abundance of stores and plenty of live packing of this kind, little is wanted by way either of contracting hives or cutting holes through combs to allow bees to reach the food. The simple expedient of placing a couple of small sticks beneath the quilts, so as to keep the central portion of the latter raised, and allow the bees passage-way over the top bars, is sufficient for all purposes in this direction.

Full instructions for feeding were given in our last "Hints," to which we refer readers; and this work completed, quilts must be removed bodily while top bars are scraped to remove propolis, bits of brace combs, and such-like; then, with a puff of smoke, drive the bees down, and pass a brush over the top bars prior to the final arrangement of quilts or coverings. This done, give attention to floor-boards, from which all *débris* should be cleared away and *burnt*. We emphasise the word "burnt," and also the fact there should be no interchanging of floor-boards at this time, or, indeed, at any time. With foul-brood risks present in so many districts, the belongings of each hive—including combs in surplus boxes, section racks, &c.—should as far as possible be kept apart, and used for the same hives again next season. The practice of interchanging combs, floor-boards, quilts, and such-like things has been productive of so much mischief in apiaries where foul brood has been working its way unknown to the owners, that all interchanging should be entirely done away with.

TO OUR READERS.

We are sorry to say that owing to the continued ill-health of Mr. Huckle it has been found necessary to remove the business hitherto done at Kings Langley to the office of the *B.B.J.* and *Record*, 17 King William Street, Strand, W.C., where all communications, of whatever nature, intended for the *B.B.J.* must in future be addressed.

BRITISH BEE-KEEPERS AND THE WORLD'S FAIR AT CHICAGO IN 1893.

As will be gathered from a perusal of the proceedings reported in this issue, the interesting discussion which took place at the monthly meeting of the British Bee-keepers' Association on Wednesday last, on the subject of sending an exhibit of British honey to Chicago, resulted in a unanimous resolve on the part of the Association to take immediate steps for putting the project into practical shape. To do this, it is obviously necessary to secure the cordial co-operation and, we trust, willing assistance of bee-keepers themselves.

Had the season of 1892 been a thoroughly good one, with abundance of honey in the homes of all who keep bees in the United Kingdom, little difficulty would have been experienced in getting together an exhibit of a couple of tons of nectar as a "sample" of what our islands yield; but, unfortunately, the results have, at best, been only moderate, and in consequence the field on which we have to work is considerably reduced, and the enthusiasm, which otherwise would have been aroused, proportionately lessened. However, the Committee, in order to meet this difficulty, have hit upon a plan by which a good show of honey may be secured without taxing either the pockets or the (bee) patriotism of our bee-keepers to any but a very small extent.

Without pledging ourselves to exact details, it may be said that, in substance, the plan is to invite contributions of honey—good, of course—in quantities of five pounds and upwards, to be forwarded in bulk or otherwise to a *depôt* at a given centre (probably Liverpool, as the port of departure), where it will be received by representatives of the B. B. K. A. for bottling, package, and transhipment to Chicago. An important point to be borne in mind by gentlemen interested in the project is, that the honey sent *need not be the produce of the exhibitor's own bees;* the only proviso being that the locality in which the honey is gathered must be stated, so that many who would have sent their own honey in a good season will, by purchasing from those less able to give away their produce, be enabled to further the scheme at a very small cost. Further, the name of each donor will appear on his portion of the exhibit.

Seeing that an opportunity of staging

British honey alongside that of other countries, in so prominent a manner as the Chicago Exhibition offers, is not likely to occur again in our generation, we hope that our readers—with whom the matter may be said to entirely rest—will rise to the occasion and lose no time in making known to the Secretary of the B. B. K. A., or to ourselves, the extent to which they are willing to assist. The exhibit will, no doubt, be seen by several millions of persons of all nationalities; it also goes without saying that American bee-keepers will welcome a good display from the mother country; and as all cost and trouble connected with it will, as already stated, be borne by the B. B. K. A., we trust to hear without delay from intending donors, in order that an approximate idea may be arrived at with regard to the amount of space to be applied for. Preliminary inquiries may be addressed to this Office, or to the Secretary of the B.B.K.A. at Kings Langley.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee Meeting held at 33 Jermyn Street on Wednesday, September 21st. Present: T. W. Cowan, chairman; Hon. and Rev. H. Bligh, Rev. R. Errington, W. Lees M'Clure, W. B. Carr, W. H. Harris, J. Garratt, and Messrs. J. M. Hooker, R. A. Grimshaw, and F. H. Meggy (*ex-officio*). The Rev. Dr. Bartrum (who had previously attended a Sub-Committee meeting), Major Fair, and W. O'B. Glennie, treasurer, were unavoidably absent.

The Chairman read the minutes of the previous meeting, which were confirmed and signed.

The Finance Committee reported that the several accounts relating to the Warwick Exhibition had been paid.

The Chairman read a letter from Sir H. T. Wood, enclosing circular received from the chief of the Department of Agriculture, respecting exhibits of bees, honey, and beeswax, and bee-appliances at Chicago, asking him to bring it before the Committee, and to inform him if the Association wished to take part in the exhibits in the British section.

The Chairman explained that there would be no charge for space, and the various steamship and railway companies had arranged to carry goods intended for exhibition at low rates. Goods for the exhibition would be admitted free of duty and could be sold in bond.

It was unanimously resolved—"That it is most desirable that an exhibit of British extracted honey of not less than 500 pounds, gathered in 1892, should be made at the International Exhibition to be held at Chicago in 1893."

On the motion of Mr. Harris, seconded by the Rev. R. Errington, the Chairman and Messrs. Carr, M'Clure, Garratt, and Hooker, with power to add to their number, were appointed to work out the details and carry out the scheme.

It was resolved to make an appeal through the columns of the *British Bee Journal*, and with the aid of the affiliated Associations, for donations to a special fund, and for contributions of honey of not less than five pounds towards forming the exhibits. The honey given for this purpose may be produced by the donor or purchased, but in any case the locality where the honey was gathered must be stated. Each portion of the exhibit will bear the name of the exhibitor.

Examiners were appointed for preparing the questions to be used at the annual second-class examinations, to be held throughout the kingdom on the 28th and 29th October next, and for examining the papers after they are returned. The same examiners to prepare the necessary questions for the "special foul-brood" examinations, to be held on the same days.

An application was made to specially examine a candidate for third-class certificate in Essex. It was resolved that the candidate be requested to present himself in the usual way at one of the shows where an examination is appointed.

The schedule of prizes to be offered for competition in the Bee Department at the Royal Agricultural Show in 1893 was finally approved and passed. After considerable discussion, it was decided to print part of Rule 5 in italics, to draw special attention to the width of borders of sections for exhibition, in order to avoid infringement.

It was decided that arrangements be made for the Special General Meeting of the members to be held on the 19th October next, for the purpose of so altering the rules as to admit honorary and foreign corresponding members.

Mr. M'Clure gave notice that at the next meeting he would bring forward for consideration the appointment of Judges and Examiners.

The Committee adjourned till the 19th October.

Notice of Examinations.

The Annual Examination for Second-class Certificates will take place on October 28th and 29th. It is open to those who have previously gained a Third-class Certificate. A Special Examination in regard to the nature and treatment of Foul Brood will also be held on the same date. Entrance fee, 2*s.* 6*d.* Notice must be given to the Secretary of the affiliated Association not later than Saturday, October 8th.

ROXBURGHSHIRE BEE-KEEPERS' ASSOCIATION.

The annual show of the Roxburghshire Bee-keepers' Association was held in the Sessional School at Jedburgh on the 17th inst., and was a good one, there being eighty-six entries. Interesting collections of appliances were shown

by Dr. Fyfe and by Mr. Ross, the Governor of the Stranraer Reformatory, whose zeal for bee-keeping is well known all over Scotland. Dr. Fyfe's collection contained several articles of a useful nature, not very well known in the district, and for this reason the collection was placed by the judge above Mr. Ross's collection. In the class for hives made by the exhibitor the first prize was awarded to Mr. Nichol Dods, Melrose, for a hive of excellent workmanship, well worthy of the attention of bee-keepers in heather districts. The hive has the floor-board fastened by thumb-screws, so that it can be removed at will, while yet being quite firmly fixed for any journey. The alighting-board is hinged to the front of the hive, and is made of perforated zinc; it can be turned up and fixed in a moment to the front of the porch in such a way that no bees can escape, while there is still plenty of ventilation. The body-box is double-walled. There is an upper story capable of holding two tiers of sections; one section rack is supplied. Both body-box and upper story are fitted with Ireland's hinges. The price is 18*s.*, and it would be difficult to find a hive better suited to the district. The opinion was freely expressed by visitors that this hive was the feature of the show. The display of honey was excellent. Mr. Robertson, of Hartrigg, carried off the medal for a collection of honey, as well as the prize for a super of heather honey. Heather classes were not large, and, with the exception of Mr. Robertson's super, there was not much that was very well filled. This is no doubt owing to the wet season. The classes for flower honey were all good, and, especially in the section classes, the judge had a difficult task. The most successful exhibitor was Mr. Whillans, from Camptown, a high locality close to the English border, who staged a quantity of clover honey of excellent flavour and beautiful get-up. The judge was Sir T. D. Gibson-Carmichael.

PRIZE LIST.

Display of honey.—1st prize, P. Robertson, Hartrigg. Observatory hive.—1st, T. Turnbull; 2nd, Dr. Fyfe. Hive made by exhibitor.—1st, N. Dods; 2nd, T. Turnbull. Super of flower honey under 10 lbs.—1st and 2nd, J. Whillans. Super of heather honey under 10 lbs.—1st, P. Robertson; 2nd, T. Ellis. Super, any weight.—1st, A. Telfer; 2nd, T. Clark. Twelve 1-lb. sections of clover honey.—1st, J. Whillans; 2nd, G. Wilson. Six 1-lb. sections of clover honey.—1st, J. Whillans; 2nd, W. Linton. Six 1-lb. sections of heather honey.—1st, W. Marr; 2nd, T. Ellis. Six pounds of extracted honey.—1st, T. Clark; 2nd, R. Sinton. Beeswax.—1st, J. Whillans; 2nd, G. Ormiston. Two 1-lb. sections.—J. Whillans. One 1-lb. section.—J. Whillans. Half a gallon of mead.—T. Mabon. Two "bonnets," 5 lbs. to 7 lbs. each.—J. Whillans. One 1-lb. section.—R. Sinton. Six jars of extracted honey.—1st, T. Clark; 2nd, G. Ormiston. Collection of appliances.—1st, Dr. Fyfe; 2nd, J. Ross.

BRENTWOOD AUTUMN SHOW.

The annual exhibition of farmers' and cottagers' produce was held, by the kind permission of the President, J. C. Tasker, Esq., in the grounds of Middleton Hall, on September 15th, when the bee-keepers of the district took the opportunity to hold an exhibition of honey in connexion with the Horticultural Society's Show. The number of entries was not quite up to last year, but, taken on the whole, it was a very good display.

The bee-tent of Essex B. K. A. was pitched on the ground, and lectures, illustrated with bee-manipulations, were given by Mr. E. Durrant, assisted by experts of the Association. The manipulations were performed by Messrs. Debnam and F. H. Brenes. The tent was crowded with attentive audiences from commencement of the lectures until dusk. The weather was all that could be desired.

The judges were Messrs. W. Debnam and F. H. Brenes.

PRIZE LIST.

Best collection of honey.—1st prize, W. Loveday, Romford; 2nd, J. Winter, Kelvedon Hatch. Single section.—1st, and E. B. K. A. certificate, W. Gadsby, Shenfield; 2nd, J. Winter; 3rd, R. R. Royds, Esq., Kelvedon Hatch. Twelve 1-lb. sections.—1st, W. Payne, Pilgrims Hatch; 2nd, J. Winter. Twelve 1-lb. jars extracted.—1st, W. Loveday; 2nd, Mrs. Oddy, Pilgrims Hall; 3rd, J. Winter. Six 1-lb. sections.—1st, R. R. Royds, Esq.; 2nd, J. Winter; 3rd, J. Payne; extra, H. Cornell, Great Warley. Six 1-lb. jars.—1st, J. Payne; 2nd, W. Gadsby; 3rd, W. Oddy; extra, W. Loveday.—*Communicated.*

INTRODUCING QUEENS.

As quite a number have asked the *best* method of introducing queens, I will here say that I hardly know which way is best, but, as I have been quite successful in the last five years, not losing a single queen that I now remember of, I will give my plans.

The first is the "candy plan;" but I do not like the directions that go out with the candy plan. I first know that my hive is queenless, then I lay the cage on the frames, wire downward, remove the tin from the candy end of cage, and let them severely alone for *one week*, and I always find the queen out and laying.

A great number of queens lost by introducing, I am satisfied, is because the hive is opened too early. Put in the queen, and do not, under any circumstances, touch it for a week, is my advice.

Another good way is to keep the queen caged over hatching brood, and have no wire cloth on the cage. But as this is more trouble, we have not used it any this year. I would never make the colony queenless before putting in the new queen, as there is more danger in your leaving some little, dumpy cell in the hive, that will hatch before the queen is released, than there is

in putting in the queen at the same operation the old one is removed. Then there is no danger of a queen hatching for ten days, and by that time the introduced queen will be out all O. K. But, usually, the new queen is out and laying before the bees have time to start cells at all.

Of course, when the colony has become queenless by accident, you should give them a queen the first chance, but be sure they have no virgin or queen-cells, otherwise you will fail. Should I have one of those bad colonies to introduce a queen to, such as Mr. Doolittle speaks of, I would put the queen into the hive three days in the cage; I would take away *all brood*, and give them empty combs, or combs of honey. Then I would shake the bees all off the combs in front of the hive, and turn the queen loose with them, and as soon as they were all in I would shake them again, just as before, and then shut up the hive. In a few hours give them a frame of brood, and then let them alone.—MRS. JENNIE ATCHLEY, *in "American Bee Journal."*

BEES AND FRUIT-GROWERS.

Mr. Frank Benton, an *attaché* of the Department of Agriculture at Washington, D.C., prepared an article for the last issue of *Insect Life*, which covers the ground so clearly and thoroughly that we reproduce it here for the benefit of our readers. It is as follows:—

BEES OF GREAT VALUE TO FRUIT AND SEED-GROWERS.

At last fruit-growers and bee-keepers are getting into right relations with each other. The numerous discussions which have taken place regarding the value of bees as fertilisers of fruit-blossoms, and of those blossoms of plants grown for their seeds, and regarding the alleged damage to fruit by bees, have led to close observation and careful experimentation, the results of which show that the interests of these two classes of producers conflict in but trifling respects—that, in fact, bee-keepers and fruit-growers are of great help to each other, and even indispensable if each is to obtain the best results in his work.

Bee-keepers have never complained, but that the growing of fruit in the vicinity of their apiaries was a great benefit to their interests, hence their position has been merely a defensive one, the battle waxing warmer only when poisonous substances were set out to kill off the bees, or when fruit-growers sprayed their orchards with poisonous insecticides during the time the trees were in blossom, or, again, when efforts were made to secure by legislation the removal of bees from a certain locality as nuisances.

Fruit-growers first relented when close observation and experiment showed that wasps bit open tender fruits, birds pecked them, they cracked under the action of sun and rains, and hail sometimes cut them, the bees only coming in to save the wasting juices of the injured fruit. The wide publicity given to the results of the experiments made under the direction of the United States entomologists, and published in the report of the Commissioner of Agriculture for 1885, have, no doubt, contributed much to secure this change among fruit-growers.

But now it would appear that the bees have not only been vindicated, but that in the future fruit-growers are likely to be generally regarded as more indebted to bee-keepers than the latter are to the fruit-growers, for the amount of honey the bees secure from fruit-blossoms comes far short of equalling in value that part of the fruit crop which many accurate observations and experiments indicate is due to the complete cross-fertilisation of the blossoms by bees.

The observations and researches of Hildebrand, Muller, Delpino, Darwin, and others, as well as the excellent explanation of the subject in Cheshire's recent work, have gone far to prove how greatly blossoms depend upon the agency of bees for their fertilisation, and hence for the production of seeds and fruits.

The facts they have brought forward are gradually becoming more widely known among fruit-growers and bee-keepers, and additional evidence accumulates. A case illustrating very clearly the value of bees in an orchard has recently come to the notice of the writer, and its authenticity is confirmed by correspondence with the parties named, who are gentlemen of long and extensive experience in fruit-growing, recognised in their locality as being authorities, particularly in regard to cherry-culture. The facts are these:—

For several weeks the cherry crop of Vaca Valley, in Solano county, California, has not been good, although it was formerly quite sure. The partial or complete failures have been attributed to north winds, chilling rains, and similar climatic conditions, but in the minds of Messrs. Bassford, of Cherry Glen, these causes did not sufficiently account for all the cases of failure.

These gentlemen recollect that formerly when the cherry crops were good, wild bees were very plentiful in the valley, and hence thought perhaps the lack of fruit, since most of the bees had disappeared, might be due to imperfect distribution of the pollen of the blossoms. To test the matter, they placed therefore several colonies of bees in their orchard in 1890. The result was striking, for the Bassford orchard bore a good crop of cherries, while other growers in the valley, who had no bees, found their crops entire or partial failures. This year (1891) Messrs. Bassford had some sixty-five colonies of bees in their orchard, and Mr. H. A. Bassford writes to the Entomologist: "Our crop was good this season, and we attribute it to the bees." And he adds further: "Since we have been keeping bees our cherry crop has been much larger than formerly, while those orchards nearest us, five miles from here, where no bees are kept, have produced but light crops."

The *Vacaville Enterprise* said last spring,

when referring to the result of the experiment for 1890: "Other orchardists are watching this enterprise with great interest, and may conclude that, to succeed in cherry-culture, a beehive and a cherry orchard must be planted side by side."

And, now the result for 1891 is known, "others," so Mr. Bassford writes, "who have cherry orchards in the valley, are procuring bees to effect the fertilisation of the blossoms."—*American Bee Journal.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C.*" (*see* 1*st page of Advertisements*).

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

FIGHTING AMONG "UNITED" BEES.

[1159.] I want to ask you if you think one of my hives is queenless? Numbers of your readers will no doubt wish to ask you the same question, so I give you my experience:—I joined two hives on July 28th. They were both strong hives, headed by mother and daughter. Till within the last seven days, all seemed right. The drones were killed, and I have not seen one for some weeks. About a fortnight ago, I commenced feeding three hives. I find, this very bad season, that though I was able to get about fifty pounds of super honey, the brood portion of the hives are nearly bare. For some time all three took the syrup very freely, but the hive in question suddenly ceased feeding. I lifted the full feeding-box off the hive, and put it ten yards away. It was soon emptied, so the syrup at any rate was right. I had previously blown down the feed-hole; a few bees came up, took a sip or two, and went down again. After the syrup box had been emptied, I again put it in position on the hive, filled it with syrup, and with the same result. The following day, I examined the entrance of the hive. It had an opening of two inches. I closed it to half an inch. I found fighting going on, and many dead bees, which were being brought out. I decided to make an examination. The hive consisted of eighteen frames, nine below and nine above. The bees were very numerous. The syrup which had been taken was all above in the upper half, and scarcely any below, and very little honey anywhere. I could not find the queen, there were no eggs or worker brood; there were, perhaps, eight or ten sealed drone grubs, but no drone eggs and no live drones. I shut all up again, and to my surprise the bees took to the food, which had been in the feed-box for one or two days untouched, and they have taken it freely ever since. Robbing by bees has ceased, but wasps manage to get in—and out also—occasionally, but the bees resent any attack vigorously. Any dead bees are removed, and *outside appearances are in favour of a queen.* The queen may be old, and I doubt, if she is healthy, as I see "black shining" bees about; but "if there is a queen I cannot find her." My cottager neighbours have all disposed of their weak hives, either by giving away or sulphuring them, and I fear foul brood, if I have to buy. The bees in this hive are very good-tempered with me, and so are their neighbours, but all hives which I have had in my garden are extremely vicious, and always have been. I know no reason, except that they are in small bee-houses and more exposed to sun heat. The hive I write about is in a large bee-house, and is, I may say, cold.—J. M'C., *Ecclefechan.*

[It is about as difficult to give a correct opinion as to queenlessness or otherwise, as to account for the bees suddenly refusing food and then taking it freely. We should, however, remove the lower chamber with its nine frames and crowd the bees into the single box of nine frames for winter, and see if warmth and food in abundance will bring forth a little brood, the absence thereof at that time being no safe criterion as to queenlessness. Personally we should *find* the queen—if she is in existence—by searching for her on the combs and among the bees.—EDS.]

CURIOUS EFFECTS FROM HANDLING BEES.

[1160.] I have intended writing you for some weeks past, but noticing a letter in the *B.B.J.* of September 15th (1147, p. 359) bearing on the same subject, I will also give my experience on the question of bees causing insensibility.

About the middle of May last I, with the assistance of a friend, transferred the frames of an old hive to a new one, and the moment I had finished the job I felt giddy in my head, and at once made for a seat and asked for brandy. In less than a minute I was perfectly insensible, and I was taken up by my friends and carried into the house, and knew nothing about it until I came to myself again with the doctor in front of me. I was informed afterwards I was in that state about two hours, inasmuch as the doctor thought I should not revive again at all, but on becoming sick I soon regained sight and sense. I kept my bed for a day or two, but it was full three weeks before I quite recovered. The doctor gave it as his opinion that it was a bilious attack; but during the third week in August I was removing some crates of sections

when I was seized just in a similar way as before related, which left no doubt that the bees were the cause, as I took things very coolly, steady, and quiet, and was not in the least excited.—S. Good, *Seaton, Devon.*

[We think the medical man's view of the case is likely to be the right one. There is no mention of the bees having stung the operator, and the mere fact of handling could not possibly have caused the serious consequences named had our correspondent been in good health. As we observed in the instance referred to on p. 359, excitement had probably much to do with both cases.—Eds.]

CURIOUS CASE OF "MATING."

[1161.] The following may be of interest to some of your readers.

Early in August I obtained a stock of driven bees and put them on bar-frames, but in transit the queen got killed. I gave them a comb containing young worker eggs, and in due time they hatched a queen (about August 20th), but lo! the drones were gone from my hives, and no other apiary near, so she remained in a virgin state about three weeks, when, in order to consult over my dilemma, I visited a bee-keeper friend, and from him I obtained one drone—all I could find. I introduced this drone on September 10th, the bees readily accepting him. Imagine my surprise, when examining the hive on September 12th, to find the queen fertile with about a dozen eggs, all "new laid."

In the meantime I had purchased two queens which travelled in an ordinary brimstone matchbox for sixteen or eighteen hours without any food; they were, of course, dead. Would not the smell of the phosphorus from the matches alone kill them?—F. S., *Staplehill, September 24th.*

[While it is not at all certain that the queen was fertilised by the drone introduced, the case is very interesting, if only for the possibility of the thing. Queens sent in the way described, would be certain to arrive dead.—Eds.]

SOME WELSH EXPERIENCES.

A Straw Skep Embedded in Comb and Honey.

[1162.] Some two years back I removed from the centre of England to this part of Wales, and had to dispose of my bees; but after I had been here some few months I was told of three stray swarms in some large oak-trees, one having been there for nearly twenty years. No one had been at the trouble to take them, so I, with the assistance of a friend to hand me my tools, removed the three lots, and obtained close on a small cartload of comb and honey. I united the three lots, and they settled down and made up a very strong stock. This year I have taken over fifty sections, and there is over a hundredweight of honey in body of hive. I have also transferred eight or nine lots for other people into frame hives, besides driving a considerable number of condemned lots, the bees being my pay.

The other day I was asked to go to a lady who resides at Llancarvon, and see if I dare do anything with a stock in a large frame hive, which she said had repeatedly driven her out of the garden. On going over on same date I found the hive, large enough to hold fifteen frames, standing in garden. This, she said, was sold her by the expert for this quarter of Wales three years back, this gentleman putting a straw skep on the frames, and not even covering the bees down to keep them below. The bees had completely filled the hive roof and body, not a scrap of the straw skep to be seen through its being completely embedded in comb and honey. I gave them a little smoke, and with a strong pull had roof off, cutting out of it about 100 pounds of honey. I then cut round straw skep and removed the pieces of comb, and lifted the skep out. As there was not much honey in the frames below I put the straw hive back on frames, packing them so that they could not get into roof. Now comes what I don't quite understand, namely, I found a quantity of drones in the hive and also a queen, who appeared to be all right. I am nearly sure I heard piping from another queen, but would not be sure as it was such a large lot, and made so much noise. I could not see any unhatched queen-cells, so I should be very glad if you can tell me the reason of drones so late in the season, and piping too, as it is quite out of my experience. I hope the relation of what I did may help some other one in a similar case through your capital *Journal.*—Thomas Adams, *Ely, near Cardiff, September 25th.*

P.S.—I found this lot very savage; I had nearly a hundred stings.

[It seems to be an ordinary case of bees deposing their queen in autumn and raising a successor.—Eds.]

BEES IN NORTHANTS.

[1163.] The honey harvest around here has been very moderate, especially for skeppists. The honey, both early and late, has shown great tendency to granulate soon after being extracted. With regard to the skeppists, I take it that as swarming was very late this season, both stocks and swarms were unable to gain sufficient strength for gathering surplus until late in the season, and then the cool unsettled weather cut off the supplies. Frame hives have done better where no swarming took place.—W. Winterton, *Wellingborough.*

"COBS AND KERNELS."

What Mr. Doolittle says on p. 547, on the subject of "Why Some Gather More Honey than Others," confirms the position I took in my "Cobs and Kernels" in a former issue of *Gleanings.* Perhaps a little more on that subject

might be said. We have so often been taught to keep our colonies always strong, particularly to get them so in the spring, and, if necessary, stimulate them by feeding or otherwise, that beginners are apt to follow such teachings only to find, many times, that their neighbours' bees, being managed on the let-alone plan, would do as well as theirs, if not better. Success depends upon whether the main honey-flow comes early or late. If late, I have noticed that even such colonies as come out quite weak in the spring would build up fast enough to be ready for the basswood flow, and become most profitable colonies. Some years ago we had much trouble with weak colonies in the spring—robbing being the worst. We used to content ourselves by saying, "They will make the honey if we can only get them through;" and the fact was, they did make the honey. It seemed a little strange that this should be so; but the solution of the problem was, no useless amount of bees was produced; the vitality of the queens was saved and prolonged, and they themselves did the best business at the right time, when the produced bees became producers and not consumers. In connexion with the above I want to say that we must not leave the young bees—not yet sixteen days old—out of our calculation, for they are the comb-builders, nurses, &c.—very essential to have.

More losses of queens have occurred among my bees during the past winter and spring months than ever before. Perhaps the reason is this: 1. I have paid little attention to renewing queens. Through carelessness, or because I followed the advice of prominent bee-keepers, I left my bees to take care of this matter. 2. It so happened that, for three successive years, we have had but little swarming, consequently not many queens were reared, leaving quite a good many colonies with old queens. I have now come to the conclusion that it will be a safer way to substitute young queens for all three-year-old ones whenever practicable; and it appears to me that the period of swarming is a favourable time for this work. Plenty of queens can be on hand then; and when a swarm is being hived, a young, vigorous queen from a nucleus can at once be substituted without the bees knowing the difference. Should a swarm come out with a virgin queen, another virgin queen of superior blood may be substituted in the same way.

Many bee-keepers provide the lids of their chaff and Langstroth hives with inch holes in the gable ends, for ventilation as well as for the exit of the bees that may accidentally get imprisoned under them. It has been very annoying to me to have wasps enter and build nests in these rooms above the brood chambers; also yellow-jackets, spiders, &c. To avoid all this trouble, others as well as myself have placed little cones over these holes with good success; but these, projecting as they did, soon became jammed, and got out of order. I now use a flat pear-shaped escape, which any one can make from a piece of wire-cloth. They answer the purpose first-rate, and do not get out of order.

In the last two years I have used a brood frame with a top bar $\frac{3}{8} \times 1\frac{1}{8}$ inch, using eight frames to the foot. These frames are free from burr and brace combs. It is a pleasure to take the full supers from hives with such frames.

In removing filled supers, the bee-escapes again prove to be a great help. Nearly all the different escapes work well at this time of the year. I find the new Dibbern mica-spring escape to be another valuable acquisition.

Several queens have found their way through the excluders into the extracting supers, and set up housekeeping therein in good earnest. I did not like that. Root's excluding metal seems to be no good for queen-fertilising chambers over other colonies. Only two queens became fertile in a large number. I will try the Chicago zinc another year, and report.

(To be continued.)

Queries and Replies.

[647.] *Feeding Supered Stocks.*—1. Can you tell me what is the matter with bee sent by same post? There are many of mine flying in and out with this whitish back. 2. A strong hive, which I sent to the moors with lots of other people's, has come back with no honey at all in the supers, whereas two new swarms (hived July 1st and 2nd), which I took myself to the ling, have filled their frames and several supers. These last I fed with syrup on the top of the supers on cold, wet, and windy days, of which we had only too many.—L. J. B., *Durham.*

Reply.—1. No bee was enclosed in box sent. 2. It may be that the bees of the strong stock have had room for all the honey gathered in the frames below, and that the supers were not warmly wrapped. Referring to those which filled supers, feeding bees while supers are on is not considered a legitimate proceeding, as they will certainly store the syrup along with the honey.

[648.] *Uniting Bees in Twin Hives.*—1 Can stocks in twin hives be united peaceably by placing perforated (not excluder) zinc between them, taking away one queen, then after a few days removing zinc? 2. A hive has brood which does not hatch out, caps fallen in with holes in them, and dead pinkish grubs, but no smell. Is this foul brood?—Subscriber.

Reply.—1. It may usually be safely done if the bees of both stocks are sprinkled with thin peppermint-scented syrup before the division is withdrawn. 2. We cannot decide so nice a point without seeing a sample of the brood and comb.

[649.] *Moist Sugar for Syrup-making—Felt Coverings.*—1. Sugar, sample of which I enclose,

has been warranted to me as cane sugar. Is it suitable for bee-feeding? 2. I have also placed ordinary tar roofing-felt over my hives next to frames. Do you think this will prove injurious to the bees during the coming winter? I have also covered the floor-boards of two of my hives with the same material, and though these latter have been in use for two months, the bees appear to work and thrive as well as the others. Foul brood is my great drawback hitherto, but, by using naphthaline, and dosing the infected colonies with Naphthol Beta, I hope to stamp it out. I may add that I have taken the *Bee Journal* for many years, and am indebted to it for many useful wrinkles.—G. T., *Tiverton.*

Reply.—1. Moist sugar like the sample sent, whether cane sugar or not, is quite unsuitable for bee-syrup making, especially for winter use. Syrup prepared from such has a tendency to induce dysentery in bees. Only refined granulated cane sugar should be used for winter bee-food. 2. "Ordinary tar roofing-felt" will have no injurious effect on the bees, but the special kind which has been referred to in our pages is much to be preferred for several reasons.

[650.] *Hive Robbed.*—In June last a fine swarm of bees was placed in a hive, and positioned in a house between two others; the house is about eight feet long, outside measurement. All went well for about a month, and they gathered about forty pounds of honey. The owners came out one morning and found about a hatful of dead bees in front of the hive. There was not the least sign of robbers from other hives, but apparently a war within; ultimately the whole of the store was carried off.—J. Brown, *Launceston, September 26th,* 1892.

Reply.—There is not much doubt that the hive has been robbed either by one of the adjoining stocks or by neighbouring bees. Bees have been known to fight among themselves when honey from another hive has been given to them, but in no other case that we know of.

[651.] *Making and Using "Ekes."*—1. What height should an "eke" be made? 2. If it should have entrance in, how long should you prefer the entrance to be? 3. Do you think it best to raise the bees and combs up by means of an "eke" for ventilation when wintering them?—A Beginner, *Wellington, Salop.*

Reply.—1. About three inches. 2. If the entrance is not provided for on the floor-board, it must be cut in bottom edge of "eke," of course, just as in the ordinary entrance. 3. Much the best.

[652.] 1. Is there any cure or preventive for earwigs in hives? Mine swarm with them, and I see the bees struggling to turn them out, but the earwig generally wins, as he runs the fastest, and seems to be impervious to stings. 2. Is it true that old, often-used comb causes degeneration in the size of bees? 3. My bees are now not only bringing in pollen, but are flying home with loads of something white on their backs; can you tell me what it is?—L. B., *Durham, September 20th,* 1892.

Reply.—1. The safest way is to find the places where the earwigs "cluster," and brush them into a vessel containing hot water. 2. No; it makes no perceptible difference. 3. Probably the pollen from Canadian balsam.

[653.] *Death of Bees when Uniting—The Cause?*—On August 22nd I looked at a hive of bees with an expert. We could not see queen or find eggs, though there was some sealed brood. As I did not know the age of queen, being a bought stock, we drove a second swarm and found the queen, which we inserted and united the bees. There was some fighting, but in a day or two they settled down. On Saturday last we looked into hive, and after taking out three frames saw the queen, so closed up and left it. Now, this morning I find some hundred or so of dead bees lying outside the hive, and on taking off the cover there was great disturbance, and apparently frightened bees clinging to all parts. What is the matter, for certainly there is something wrong? There is plenty of honey, as none has been taken from the stock this season, and no fighting is going on in the five hives close by.—A. P. J., *Norfolk.*

Reply.—There must have been some "fault" in the operation of uniting to cause the fighting. Had precautions been taken by properly using either scented syrup or flour in the process, the fighting would have been avoided.

[654.] *Stimulating—Raising Queens in August.*—I am anxious to get some honey from wild cherry bloom next year, there being a great many trees round here, and this year they came out during the third week in April. 1. When ought I to start stimulative feeding, so as to have my stocks ready by that time? A queen was removed on August 11th, the hive at the time containing eggs, brood, and drones. The drones are now all killed. 2. Can I rely on having a fertilised queen in that hive, no brood being at present apparent, although stimulative feeding has been going on for three weeks? 3. Is there any book on the making of straw skeps? 4. How can I make salicylic acid dissolve in water, to make solution No. 1 in *Guide-book?* I have put the borax and acid into a bottle of water, but the latter floats on the top. 5. If naphthaline is powdered and sprinkled between combs put away for the winter, would it not make them smell so strong that honey stored in them next year would taste of it, and so be spoiled? 6. When should American cloth be used for quilts, and why?—Ernest Walker, *Erith.*

Reply.—1. Six weeks before the anticipated honey-flow is the proper time to begin stimulating. 2. The queen should not have been removed so late as August 11th, and time only will show whether a successor has been raised and fertilised. 3. None that we are aware of.

4. Salicylic acid and soda borax, thoroughly incorporated, will dissolve readily in water, but to facilitate the operation, use warm water and shake the bottle well, after which the mixture will remain in solution for any length of time. 5. Naphthaline must be used as directed. To sprinkle powdered naphthaline between the combs would be ruinous to the stock. 6. At all times, and because it makes one of the very best coverings for placing next the frames.

AN ACTUAL BEE EXPERIENCE.

Oh, Apis Mellifica,
What pranks you've played on me!
How oft you've swarmed clean out of sight,
Or mounted some tall tree!
How oft when in my garden
I would innocently roam,
You've met me at the farthest end,
And kindly helped me home!

My bee-fever was at its height—
I had it rather stiff—
Two rousing swarms came off at once,
And joined without a tiff;
Though that May morn was bright and hot,
They quickly rose up higher,
And down an old crookt chimney went,
For they weren't above a fire!

"You needn't try to get 'em out,"
A neighbour said to me;
"There's bin bees there for twenty years,
As strong as bees could be;
But the folk forgot to tell the bees
When old William passed away,
And a month ago the bees went, too,
Or else um flew away."

That day and night, and e'en next morn,
Those big swarms haunted me;
I couldn't sleep, nor work, nor think
Of anything but bee,
Till a bag of pepper tumbling down
Burst just above my head;
The stuff streamed in my eyes and nose—
I'll tell not what I said.

I had to clear at once—right here,
Or else stop there and choke;
A bee-line to the door I made,
And much bad language spoke;
Yet 'midst those coughs and sneezes
An idea struck my mind:
I thought, like me, if peppered well,
They'd leave their shop behind.

Then I treated them to half a pound,
Letting it slowly drop;
In half an hour nearly all
Were in a skep at top.
If future swarms at sweep should play,
And down some chimney get,
I try the "pepper dodge" again,
But I won't the bag upset.

FORMICK.

HOW DOTH THE LITTLE BUSY BEE.

A Chinaman learned by heart the well-known lines of Dr. Watts—

"How doth the little busy bee
Improve each shining hour,
And gather honey all the day
From ev'ry opening flower."

This is how he rendered it:—

How sic belly small chin chin sting-bug
Im-im-plove ebly slixty minnit all a time,
Go, pickee up sting-bug juice all a day,
All kin' places 'lown flowels just got busted!

Bee Shows to Come.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

November 10th.—Autumn show of the Essex B. K. A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. F. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** ERRATUM.—In our report of the honey show held at Bramhall, Cheshire, on September 10th, the name of the owner of the park wherein the show took place was erroneously printed Greville instead of Nevill.

W. WINTERTON.—*Sugar for Feeding.*—The size of crystals makes no difference in sugar for bee-syrup. So long as you can rely on its being cane, either of the samples sent will do, but *we* cannot guarantee the quality.

E. SMART.—*Willesden Paper for Hive Roofs.*—The paper referred to is sold by the "Willesden Waterproof Paper Company, London."

KATE HOGAN (Athlone).—If you have wax in sufficient quantity to make it worth sending to a comb-foundation manufacturer, he will work it into brood foundation for you at about 5*d.* or 6*d.* per pound. Some chemists readily purchase British beeswax.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

TO EXHIBITORS AT THE DAIRY SHOW AT THE AGRICULTURAL HALL.

In view of the large number of exhibits of honey which will no doubt be staged at the Dairy Show to be held in the Agricultural Hall, London, next week, we would invite the attention of exhibitors thereat to the excellent opportunity offered for presenting donations towards the proposed display of British honey at the great "World's Fair," at Chicago, next year. By taking advantage of the occasion referred to, they will be spared the cost of return carriage, and a similar expense will be saved to the British Bee-keepers' Association of carriage up to London which otherwise would be incurred, two advantages which we hope will not be lost sight of.

Parcels of honey presented in this way would be taken direct from the Agricultural Hall to a *depôt* in London, and dealt with according to the expressed wishes of the donors. Thus a considerable amount of trouble and expense will be saved.

It is gratifying to note that several offers of honey have already been made, but if, as we hope, the exhibit of British honey is to reach a ton in weight, there must be plenty of help forthcoming, and we shall be glad to receive notice from exhibitors who may be desirous of rendering help in the manner above indicated.

A note just to hand conveys the idea that some uncertainty exists as to the amount of honey each donor is asked to send, which we take the first opportunity of setting right. Our correspondent writes as follows :—

"I shall be pleased to send five pounds of honey for the 'World's Fair.' I don't see why bee-keepers could not contribute ten pounds, it would not make such a great difference to them.—Yours faithfully,

"D. Pratt, *Member Kent B.K.A.*"

If Mr. Pratt refers to what appears on page 376 last week, he will find the words used are "five pounds *and upwards.*" It was never intended to limit the quantity at all. One gentleman promised fifty pounds, and the more we have of such generous donors the more creditable will be the display.

BRITISH BEE-KEEPERS' ASSOCIATION.

PROPOSED SHOW OF HONEY PRODUCED IN THE UNITED KINGDOM AT THE INTERNATIONAL EXHIBITION TO BE HELD AT CHICAGO IN 1893.

The Committee of the British Bee-keepers' Association fully recognise the importance of steps being taken to provide a thoroughly representative display of honey produced in the British Isles at the forthcoming great Chicago Exhibition. The annual income of the B.B.K.A. is not sufficient to enable the Committee to meet this expense as well as the increasing number of calls made upon them from time to time. It has, therefore, been decided to make an appeal for support to the several affiliated Associations and to the public generally towards sending out a thoroughly representative exhibit of British honey to Chicago and for other work. The Committee will be pleased to receive donations towards this special fund. They will also be glad to receive gifts of extracted honey (not less than five pounds, gathered in 1892) to form a part of the exhibit for the Chicago Exhibition, the honey being produced or purchased by the donor, but in any case the name of the locality where it was gathered must be stated.

Promises of support will be received by the Secretary of the B.B.K.A., John Huckle, Kings Langley, Herts.

Acknowledgment will be made in the *B.B.J.*, and full information respecting the above Exhibition will appear in that paper.

THOS. W. COWAN,
Chairman of Committee of the B.B.K.A.

LANTERN SLIDES ON BEES AND BEE-CULTURE.

Several correspondents having written asking for details regarding the above, we refer inquirers to Messrs. Newton's advertisement in this issue for full particulars as to prices, &c.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE COLOUR OF HONEY.

[1164.] It seems to be the desire of your correspondent (1150) to bring about a discussion on the question of colour which shall have for its object the altering of the schedules for honey into but three classes, arbitrarily named (*a*) clover; (*b*) mixed flower; (*c*) heather honey. To the discussion I can offer no objection, as some sort of good generally grows when the *pros* and *cons* of any debatable subject are argued, but to the fixing of such hard-and-fast lines as are suggested—and these restrictions can only cripple and fetter instead of assisting the judge—I must enter my mild and perhaps ineffectual protest.

The ball is indeed set rolling when we are told that "honey should not be judged by colour at all, and any judging where colour is taken into account would be described as faulty." Why, colour is almost as important a point as flavour, more so than clearness to some, and quite as much so as consistency to others. One might as well eliminate colour from a judgment on wine; colour, bouquet, flavour, clearness, &c., are vital and all-important in a pronouncement on all coloured and flavoured liquid delicacies! Surely when the colour of an object increases or diminishes its attractiveness, and therefore its chance of sale, a judge who is appointed to discriminate between the best exhibits and the inferior ones should not be blindfolded as to colour by official instructions. Having bandaged his eyes, you will next plug up his nostrils, and tell him honey should not be judged by aroma; you may even instruct him that his palate may not be free to assist him, for are we not told (on colour) that some have a fondness for red, others for green or yellow, or blue, or amber, or rich brown; therefore some tastes may prefer flower, clover, or heather (the three primaries of colour), or blends of these. I think the gentleman who speaks so authoritatively on these points is "a little too much so," when he says that "colour is so much a matter of personal preference, that argument on the point is perfectly useless;" else why does he raise and invite discussion on this very subject? I resent, in all friendliness, such dogmatising. A judge must be trusted to use *all* his powers to the utmost, if he is at all worthy of being honoured by his appointment, not "cribb'd, cabin'd, and confin'd," by such dictation as is suggested. There are many points in the article on the colour of honey which are calculated to raise plenty of discussive dust, therefore, I must, out of deference to the patience of your readers only touch upon them.

1. It states: "Honey being an article of diet, its chief value lies in its nourishing properties which are recognised by its *consistency* or *density*." I contradict this; honey is chiefly a delicacy, a sweetmeat, a luxury, and its value is not recognised as stated. If that were so, granulated honey would be always *facile princeps*.

2. Judges are instructed that brightness should be taken into account when judging (of course); but I am puzzled when I read on, that "judges should always make due allowance for cloudiness." So, you see, they may not judge on colour, and, all other things being equal, are not to knock points off for dulness as opposed to brightness; besides being told that, "owing to the *leaning*" (my italics) "of judges rather to clover or heather honey, mixed-flower honey has met with but scant recognition in the past." Here are three mose material points of judging interfered with—colour, clearness, and flavour.

3. In the fourth paragraph of the paper under notice it is said: "Just as impossible as it is to dictate to any one which colour he shall consider the prettiest, so it is equally impossible to lay down the law as to which aroma and flavour shall be considered the choicest." I ask your correspondent if it is not a fair inference that, as he would debar a judge from taking colour into consideration, would he not also by the above sentence also debar him from taking aroma and flavour into consideration?

4. Judge and exhibitor are *not* placed in a false position with regard to clover and heather honeys, as stated, when the schedule is made out properly; and I do think quite oppositely to your contributor as to mixed-flower honey receiving such scant recognition. My experience, as one who has tried to cultivate a discerning

palate, confirmed by "old hands," too, is that mixed flower and clover, in varying proportions, clover and flower, clover with a little heather, heather with a little clover, give honeys which are more *récherché* or sought after than single flavours, mixed flower with a "twang" of something in it being beloved of all. The chief and, to me, insuperable objection to dividing honey into the three classes named—

Clover,
Mixed flower,
Heather,

is that, in *most* cases, the exhibitor may not be able to say what his honey is himself, and the work of the judge would be increased by having to discriminate, unclass, and disqualify so much wrongly entered stuff, thus displeasing many and shutting out otherwise perfect and prize-taking entries. I hope this classification will not be taken seriously in consideration.—R. A. H. GRIMSHAW.

THE COLOUR OF HONEY.

[1165.] Mr. Harbordt's letter (1150, p. 366) in *B.B.J.* of September 22nd will, I trust, be the means of bringing about some reform in the matter of judging run honey. Now is the time for bee-keepers to ventilate what they may consider a grievance, and point out wherein a remedy may be effected. For my own part I am sorry I cannot go in with Mr. Harbordt's classification under the three heads he has named. Are we to understand that all very clear honey must rank as *clover*, very dark honey as *heather*, and so on? I maintain all honeys are mixed more or less with nectar from different flowers at the time of gathering, and the bee-keeper, professional or amateur, that would ask me to take for granted that No. 1 was a sample of *pure clover*, No. 2 a sample of *pure heather*, No. 3 a sample of *pure lime-tree*, and a host of other *pure varieties* we often hear mentioned, would be asking for more confidence in his judgment than I would give to any one.

Has the bee such instinct as will lead it to secrete nectar only from such choice flowers as clover, heather, and lime-tree, while the locality at the same time is overflowing with other flowers equally as good as any of those mentioned? I quite agree that a very large proportion may be either clover or heather, but to say any honey is distinctly pure and gathered solely from one given flower is, in my opinion, *saying too much;* and such placards as *Clover Honey, Mixed Flower Honey, Heather Honey*, would be simply gulling the public. I have seen a sample of honey chiefly gathered from the hawthorn and cherry blossom placed alongside of what was termed pure clover, and a 'cute expert could not distinguish "t'other from which" so far as colour was concerned.

Only last season I sent to a well-known honey merchant in Glasgow samples of honey by request. No. 1 sample was the produce of the best heather district in Ireland, No. 2 being gathered many miles from heather, chiefly from the *bramble*. This he pronounced as the best colour for heather, and would not buy No. 1 sample unless I could complete his order with No. 2 to sell as genuine heather honey.

Different districts produce honey of different colours, and this is easily accounted for by the extent or abundance of a special flower, and the remedy, if one is to be found, must lie elsewhere than in the colour. I admit that dark honey, said to be heather, should have, as at present, a separate class; all other classes should rank as mixed flower honey, which they undoubtedly are. Provided two samples, say, a light amber and a much darker shade possessed the same points and were equal in all except colour, I would certainly give preference to the light sample as being more pleasing to the eye, and as showing signs of bee-keeping pure and simple, while the darker honey, as a rule, can be traced to a large extent to the careless bee-keeper who will not take the necessary pains to grade his honey, but mashes a whole season's produce together; hence the great variety of colours seen at our shows.—JOHN D. MCNALLY, *Laurencetown, Co. Down.*

THE COLOUR OF HONEY.

[1166.] I have been much interested in the letter (1150, p. 366) which appeared in *B.B.J.* of September 22nd, entitled, "The Colour of Honey." It seems to me your correspondent's letter extends to something more than that, viz., to the judging of honey. I have kept bees for a series of years, but till I began to take in the *Bee Journal* I scarcely paid much attention to the quality of honey. It is many years since I was asked to judge the honey at one of our local horticultural shows. I said I knew very little about honey—I had certainly kept bees. My friend said, with a laugh, "Never mind that, the exhibitors will be better satisfied if *you* judge." I got a friend to help me, and the result has been that at all the local shows I have been asked to judge.

Last year I had the pleasure of a short visit from Mr. Cowan, and though he had no opportunity of assisting me, yet he gave me certain rules and conditions by which I was enabled to do more justice to the exhibits placed before me. As bee-keepers are asked to state their views, I will state my experience. In judging honey I endeavour to a certain extent to look upon it as I would if I went into a shop with the view of having a nice glass or section of honey comb set before me. I think exhibitors, who wish to make money by their bees, should be made to feel the advantage of putting up their honey in the most attractive form. With this feeling I take a general look round. No doubt a clean, neat glass, with clear and bright honey of a good colour, attracts my attention, and I am inclined at the first sight to put the exhibits which have not these qualities on one side. This, however, is hardly fair, as I am asked to judge the quality

of the honey, not the glass or exact colour; but what is called the "get up" has already made a great impression upon my judgment. I am certain the "get up" and the outside appearance have much to do with the mercantile value of the honey, and that is what those who make a business of bee-keeping should look to.

Judges, however, have to do something more than this. They have not only to encourage and educate the bee-keeper to show *nice-looking* honey, but it must *be* nice as well. Now Mr. Cheshire, in the second volume of his book, entitled *Bees and Bee-keeping*, at page 484, gives his opinion of an "ideal sample of honey." He says, "an ideal sample would have a delicate but characteristic aroma, a rich flavour, leaving a distinct impression on the back of the palate, and would be of a straw or pale amber colour. It should possess perfect clearness, and as distinct from clearness, brightness, due to a high refractive index, with density almost amounting to toughness," &c. The tastes of all of us (as Mr. Harbordt very justly says) differ very much, but I have been much struck with what Mr. Cheshire writes, that *good* honey leaves a distinct impression on the palate. It seems to me that good honey produces a sort of double sensation: the first, when it enters the mouth, and then the taste left on swallowing, and as far as my opinion goes no honey is good unless there is this sensation.

To a *certain* extent I think all judges are influenced by colour. Mr. Cheshire would put aside a "muddy brown." The main points, however, in my opinion, are the taste, *density*, and *aroma*. I do not find that brown honey has much good flavour. It is often slightly bitter.

We have in this district at times a good deal of white clover. This year more than usual, but during the clover-time I saw bees gathering honey from many other flowers, and the honey from my bees this year is what I would call dark or reddish amber, but at the same time clear and bright. I think honey gathered in the summer months is all more or less *mixed*, and I think summer-gathered honey should be called "flower honey." Autumn-grown honey, where there is heather from high ground is, however, mostly from heather, and it has its own characteristics, which make it distinct. I think, therefore, two classes are sufficient, but cloudy honey is often exhibited. This is mostly owing to the commencement of granulation, and is not fit to show with bright honey, and therefore should have a class of its own. I did, however, this year give a second prize to honey of this description, because of its superior flavour and density.

I cannot close this letter without congratulating Mr. Harbordt for having brought this subject before us, and thanking the editors of the *B.B.J.* for offering the use of their columns in order that bee-keepers may express their views. I know the difficulties experienced in country districts in getting suitable judges. Most district horticultural societies have very little money to spare, and in many cases they have to get any one who happens to keep bees. A good judge requires to be able to educate and show the exhibitors and bee-keepers really what the points of good honey should be, and I am sure it will be of great service if the editors of this paper will give us all a statement of what bee-keepers in exhibiting their honey should aim at, and that if possible these directions should not only be in the *Bee Journal*, but be printed in a cheap form to distribute in the different districts embraced by the shows. — J. M'C., *Ecclefechan, N.B., Sept. 28th*, 1892.

NOTES BY THE WAY.

[1167.] The state of the weather does not excite such a keen interest in the mind of the bee-keeper in October as in the earlier months of the year. The late cold, unsettled weather has made even feeding a very uncomfortable job, though it has prevented in a great degree the consequent excitement in the apiary whenever feeding is going on.

The subject of feeding suggests the inquiry, Have our brethren in the craft taken the good advice given in recent numbers of *B.B.J.* to use Naphthal Beta in food for winter stores, not only in syrup feeding but also in the cakes of candy that will be shortly placed over the feed-holes to eke out the stores below. Every bee-keeper knows with what avidity the bees take to the candy cakes in preference to the honey in the frames on which they cluster, therefore the candy cake must be a first-class medium to administer the remedy; this applies especially to districts where foul brood is known to exist, and in other districts that are free from it (as far as is known) should take the advice in No. 481 *B.B.J.*, September 10th, 1891, and use only half the quantity of Naphthol Beta in preparing food for bees, either syrup or candy. This, with two or three pieces of naphthaline dropped into each hive when packing up for the winter, will act as preventives against the infection of the microbe; also a few pieces of naphthaline placed amongst the wraps will help to keep the hives clear of the smaller pests of the apiary, such as earwigs, moths, &c.

Our Berks Association show calls for a few comments. Some of the features were new, such as the national competition and exhibits of honey by agents of the Association, *i.e.*, firms of grocers, dairymen, and confectioners, who sell the production of the members of our Association apiaries, and the exhibits were good. Some may say such exhibits were "shoppy." Granted they were, as all exhibits of edibles must be to some extent, but is it not a proof of progress that we are reaching the great "B.P." when we can interest three different classes of caterers for the wants of the British public to handle our productions? Then there were other classes for honey in applied forms, such as temperance drinks or beverages, honey applied in medicines and food. These may be only some of the byways by which the B.P. may be reached, but they all tend to utilise and develop our industry.

I was sorry the appliance classes were not better filled. Reading being central, I expected a full entry in each class, and hoped to see some new ideas in self-hivers, and to have had the opportunity of overhauling Mr. Hooker's hiver again.

This reminds me that I promised some time since to give my opinion on the "Hooker self-hiver." To the novice in bee-keeping, or to our friends the skeppists, this device would seem a very complicated affair, no doubt; but to any one who has handled bar-frame hives, the addition of the hiver to the hive would only require a little thought, to see the utility of the extra parts, and to know how to manage and take advantage of them. As it was exhibited at Warwick, it gave one the idea of a rather large hive, with a piece of perforated zinc at the entrance. The side pieces of the hive proper extend somewhat in front of the hive, or, rather, the hive has two front walls, and between these walls is the device for hiving the swarm. As I said before, the piece of queen-excluder zinc is attached to the outside wall, and when the swarm issues, the queen, finding she is a prisoner as regards the usual entrance of the hive, sees a means of escape up through the cones of excluder zinc above, and as we know the tendency of bees to run up, it is the most likely thing in the world for the imprisoned queen to run up through the diaphragm, when she finds herself still a prisoner, but in a ready-furnished apartment, with a wide entrance of excluder zinc. The flying bees of the swarm, not finding their queen among them, return to the hive, but the propensity of the queen to take flight with a swarm will naturally induce her to be still in quest of an exit, so that she may join the glad throng. This will excite her, and by emitting either sounds of distress or a stronger scent than usual, the returning bees will find her at the entrance above instead of the entrance below, and as the swarm settles down in their new hive on top of the parent hive, I should think the bulk of the swarm would join the queen; but even if only a part of the swarm remains aloft, the sole object of the appliance has been obtained, viz., the hiving or retention of the swarm without watching. This is a *desideratum*, and when practically demonstrated another season by actual use, I have no doubt of its adoption by a large number of bee-keepers. There is another point in favour of the "Hooker self-hiver"—there is room above the brood nest for a crate of sections or shallow frames, so that should the entrance be closed to the queen, the work of the hive goes on as usual until the swarm issues, and I may add repeated experiments by American bee-keepers have proved that excluder zinc in front of the entrance of hives does not appreciably affect the income of honey. Those bee-keepers who keep a few hives a distance from home in allotments, or in places where it is troublesome to watch, will hail with delight an appliance that will release them of all care in the swarming season. A look around the apiary during the evening, or, if more pressing business calls, the bees can be left till the next day, as the bees will be secured if they swarm. The hiver, as exhibited at Warwick, formed part of the hive, in fact was a self-swarm-catching hive, but the device can be adapted to all, or nearly all, existing hives. The only obstacle in its adoption will be the porches, but as these are easily removable, and in some hives simply hang on, that will be only a minor point.—W. Woodley, *World's End, Newbury.*

A STANDARD BOTTLE FOR SHOW PURPOSES.

[1168.] In your issue of the 22nd ult., in the article on "The Colour of Honey," by our good friend Harbordt, about which I may have something to say another time, he refers to a matter which I have thought a good deal about lately. Speaking of the "*get up*" of honey, he says: "The bottles should be . . . . of an attractive shape, and made of good material." This is a difficulty a good number of us have to contend against. I bought five dozen bottles this season, and gave 2*s.* 6*d.* per dozen for them, and there were scarcely six good bottles fit for the show table among the lot. Would it be possible for the B. B. K. A., which has a "standard frame" to have a "standard bottle" as well, and let all the shows held by the county Associations connected with the British use the standard size and shape? This principle is carried out in some places; for, in looking through the *Journal* or *Record*, I forget which, a few weeks ago, I found, in the advertisement of a certain show, that one of the conditions for exhibition was that a certain maker's and a certain kind of bottle was to be used; but, above all, let it be of full capacity, and if it is a pound bottle, let it hold a pound *net*, and do not encourage any of those dishonest practices which puts a bottle of honey into the market as holding a pound while, in some cases I have met with, they will barely hold fourteen ounces. If I were a judge, I should feel strongly tempted to disqualify all that came to the show table with reputed pounds instead of full-capacity bottles. I hope something may be done in this matter.—Hemlock Stone.

[If a really good and reliable "make" of glass jar for honey could be found, it would no doubt be advantageous to recommend its adoption. Our correspondent, however, has obviously never filled the office of judge, or he would at once realise the impossibility of telling with certainty how much each jar staged holds without removing the contents and "weighing;" a thing quite out of the question.—Eds.]

EARWIGS IN HIVES.

[1169.] Referring to "L. B.'s" query (652, p. 383) I may say that my hives, one in particular, had a large number of earwigs between the inner and outer walls and among the wrappers on quilts, until one day, when drop-

ping in a few pieces of naphthaline as a preventive against foul brood, the thought struck me that possibly the earwigs wouldn't like the smell of it, so I put five or six large pieces between the walls of hive and among the wrappers; the result was the earwigs cleared out. It is worth trying, as probably it will also be found to keep out moths, ants, &c., and, above all, as a safeguard against foul brood.—AELF-REDE, *Hendon.*

[Naphthaline is an effectual preventive of moths about hives, as well as for household use amongst clothing, carpets, furs, and other articles liable to injury from these insects.—EDS.]

AN EASY METHOD OF MEASURING OUT NAPHTHOL BETA.

[1170.] Put a drachm of Naphthol Beta into a one-ounce phial, and fill up to the shoulder with *rectified* spirit. Gum a slip of paper (postage-stamp bordering will answer) along the phial from the bottom to the shoulder, and by the aid of a foot rule divide the paper by a pencil mark at each one-eighth inch. As the whole phial contains sufficient to medicate twenty pounds of sugar, and as the phial is two and a half (or twenty-eighths) inches in depth, each one-eighth inch will show the depth of liquid required for one pound of sugar. A pair of toy scales may be adjusted to do the weighing, and a drachm of gum, purposely bought at a druggist's shop, will do for a weight.—E. B.

THE SEASON IN SUSSEX.

[1171.] It has been a fair season here. My seven hives have all wintered well, and produced as follows, net weight:—No. 1, 61 lbs.; No. 2, 75 lbs; No. 3, 38¾ lbs.; No. 4, 72½ lbs.; No. 5, 54¾ lbs.; No. 6, 33 lbs.; No. 7, 20½ lbs. Nos. 3, 6, and 7 were worked for sections, the others for extracted honey. I had no swarms. Total weight, about 355 lbs., giving an average of nearly 60 lbs. per hive, against 59 lbs. last year. All hives wintering in good condition.—L. B. BIRKETT, *Westbourne, Sussex.*

BEE-KEEPING IN ALGIERS.

[1172.] I have not yet received my extractor, ordered last February. This machine has already caused me some trouble. I have made the acquaintance of M. Coquard, who is an officer, and has left the military service to embark in bee-keeping. His principal business is the honey and wax trade. He has two apiaries at Mustapha, one at M. Joly's and the other at the Jardin d'Essai. His system is similar to Ferridubois', the hives being made from petroleum cases. They are economical hives, but not very practical or suitable for exposure to the full sun of our climate. I do not know what his results are yet. He also has one Dadant hive with a feeder on one side. He has written to a dealer in England for a cylinder foundation machine in order to make and sell comb foundation to Algerian bee-keepers.

Our bees are now working on ripe figs and grapes that have been attacked by birds. I will let the bees have this harvest for their winter stores. A large number of visitors have been to see my apiary, who professed themselves well pleased to see the hives, and the manipulation of these struck them as being very simple. We have had an exceedingly hot summer; but, notwithstanding this, not a single Cowan hive with double walls has suffered the least inconvenience. I am exceedingly fortunate above my neighbours to have your system in use, and which I am trying to push, for I find it most suitable for exposure to full sunshine without the slightest fear of the combs giving way.

We are very short of water, the springs are late in getting replenished, and we are very much in want of rain. The honey harvest, speaking generally, has not been very great, but the quality of the honey is far superior to the average.—L. ROUX, *Algeria.*

NAPHTHALINE AND FIGHTING.

[1173.] I do not know if it has been noticed before, but it seems to me that two to four pieces of Naphthaline placed on guard around a three-eighth of an inch flight-hole tends to subdue that excitement and fighting resulting from bees not having emptied their feeders by morning. Some do not hurry to empty even five pound feeders, though warmly covered, but start breeding and carrying pollen. — RICHARD DUTTON, *Terling.*

THE SCIENCE OF BEE-KEEPING.

POLLEN GATHERING: WITH SOME NEW DISCOVERIES ON THE FORMATION OF THE POLLEN PELLETS.

Bees are kept for pleasure and for profit; a few persons keep them for pleasure only, regardless of return for the care bestowed upon them, but the vast majority of bee-keepers throughout the world keep bees mainly for profit, and study very keenly everything tending to pecuniary benefit from their bees, so that all points which have a direct bearing on the amount of produce from the hives are well ventilated. On the other hand, matters which cannot make the bee-keeper one penny better off are only studied by a few who, like the writer, love to ramble in the vast unexplored domain of nature. It is not astonishing, therefore, that the profoundest ignorance still prevails on many subjects which, had they had their share of attention, would present the greatest interest to all who admire the works of nature.

In the many books already published which

treat of the anatomy and natural history of the honey-bee, several appendages of the bee are mentioned for which no use has yet been found, while to others an erroneous use, instead of the real one, has been ascribed. This state of affairs is not surprising, when we consider the number of complicated parts found in so small an insect as the bee—that the eye of the observer becomes puzzled in assigning the exact movements of a single part in activity, and how much more of those of several working together, like one homogeneous whole. It is not, therefore, entirely the fault of the authors, when we consider the almost insuperable difficulties in the case.

Thus, to the present day, and, although volume after volume has been published on the honey-bee, we still admire the bee in the field, with only the limited knowledge to guide us possessed by our forefathers, who were quite unable to unravel the manifold and mysterious movements of that marvellous insect, as it flies from flower to flower.

The writer has, for several seasons past, made a special and study of the formation of the pollen pellets, and has followed the bee closely while it worked on various flowers, until he has been enabled to clear away doubts and uncertainties, and reduce to a system the various movements of the bee while gathering pollen, or on the wing in passing from flower to flower, and to determine the exact purpose of each movement made.

He believes that a knowledge of his system will be indispensable as well to the botanist as to the bee-keeper who desires to know the meaning or import of each movement of the bee.

Before presenting the system and initiating the reader into facts which have so far remained unknown, it becomes necessary to point out the incorrectness of a few of the prevailing ideas on the subject of pollen-gathering. Some of these ideas are not only incorrect, but opposed to actual facts. In drawing the attention of readers to the false ideas prevailing on the subject under discussion, a few passages will be quoted from popular works on bee-keeping, and the writer hopes it will not be taken as lessening the real value of those works, if he points to a little dross among so many grains of gold which they contain.

Two of the terms that will be often used in this essay would prove ambiguous to the reader if the meaning of each was not explained at the outset. Allusion is made to the terms "*dry* pollen" and "*prepared* pollen." Prepared pollen will always mean that pollen which has been mixed with the saliva of the bee; and dry pollen, that which has not received such an addition of saliva.

A common belief prevails, particularly among beginners in bee-keeping, that "bees do nothing invariably," because, among other reasons, of their inability to make their bees amenable to complete control in such things as prevention of swarming, &c. If we admit the possession of intelligence in the honey-bee at all, we must allow that it has an object in each of its actions, and that it is actuated at all times by *cause* and *purpose*. This is the belief of the writer, and to prove his position he would state that he has the care of about one hundred colonies each season, the whole of which are not only prevented from swarming, but no hive has the slightest inclination or desire to do so, even if the queen is removed at any time during the swarming season, from the fact that the bees are maintained in the non-swarming condition throughout. So that while—to those who have not mastered all the facts they involve—the two conditions seem to merge into each other, it is really possible to maintain a wide gap between them.

Another popular error is that the bee actually *rolls* itself in the pollen, and *comes back to the hive white as a miller*. Of course, the bee works among pollen dust just as the miller works among that from flour, but the bee never rolls itself among pollen for the purpose of carrying a load of it to the hive. It does exactly the reverse, and if it had plenty of time at its disposal it would not carry in any *loose* pollen at all while at work forming the *pellets*. But the demands for prepared pollen are so great during the busy breeding season, that the bee has no time to care for fine clothing, and so, like the miller, it carries the sign of its calling with it. It is as absurd to suppose that bees roll themselves in pollen for the purpose of carrying it home on their backs, as that a coalheaver rolls himself in the coal-heap to fill his coal-bags!

(*To be continued.*)

"COBS AND KERNELS."

(*Concluded from p.* 382.)

The telephone connecting my shop with the house is a good swarm-indicator. When a swarm issues from a hive near the wire, many bees strike it (they do not seem to be aware of it). In the house and shop it sounds like a shooting-affair in the distance, and we know immediately what's up. I am satisfied that, if I had two or three wires stretched over the yard (of 125 colonies) at proper distances, every swarm issuing would be reported as it makes its appearance.

The experiment of Schönfeld, in Germany, seems to prove that the ripening of honey, or the change from nectar to honey, is a process of evaporation only. Dzierzon, however, thinks that this condensing process is performed by the direct action of the bees. He says: "It seems, we can reasonably suppose, that the honey-stomach of the bee is like a filter, allowing the water to pass through its walls. I believe nectar would much sooner turn sour than thicken to the consistency of honey inside of the hive." Schönfeld, in his experiment, formed a colony of young bees only, which he knew would not, and did not, go out in search of food. To this colony he introduced a comb filled with sugar syrup, but enclosed in wire-cloth. Then he fed this colony the same kind

of thin syrup. At the end of seven days the fed and stored syrup was compared with the screen-enclosed syrup, and only an insignificant difference was ascertained in favour of the first-named. The syrup in the enclosed comb had not soured, and was so nearly of the same consistency that v. Planta, who made the analysis, thinks it questionable whether, in this process of concentration, the organization of the bee plays any part at all.

The best time to put foundation starters into sections is in the morning, before you need them. The best time to give sections to your colonies is the minute they are ready for them and honey is coming in; but the best time to make up your sections is in the winter, when there is plenty of spare time. I use section-holders or broad frames, and handle the sections, after they are made, in fours. — F. GREINER, *in "Gleanings."*

Queries and Replies.

[655.] *Drones still Alive.*—On the 22nd of September I killed over 250 drones in one straw hive of mine, and it seems there are hundreds more alive. I should like to know why the workers have not massacred them before this. 1. Is it a sign of the stock been queenless? 2. If so, is it too late to introduce a queen, and would a young or old queen be the best? There is from twenty-one to twenty-three pounds of honey in the skep.—H. R. C., *Carnarvon.*

REPLY.—1. It is almost certain the hive is queenless. 2. A young *fertile* queen is much preferable to an old one, and she should be introduced at once if possible.

[656.] *Reducing Stocks.*—I have done fairly well this year, having taken 474 pounds of honey, extracted and section, from eight hives. I have now twelve hives in all, and wish to reduce the number to four or five, and also to sell some of my honey. Can you tell me how to do it? Next year I intend to try the shallow frames you recommended, but could not make the change this year, as I was too busy.—B. T. M., *Bexley.*

REPLY.—We know of no better plan of disposing of bees and honey than that of advertising in our pages. Any stock of bees not very strong may be united, and so the number may be reduced if "selling" is not desirable.

[657.] *Death of Bees through Uniting.*—1. The point of my query (653, p. 383) in the *B.B.J.* of last week was to ask, *not why there was fighting when the uniting took place,* but why, after the bees had quietly settled down for nearly four weeks, they should take to fighting so viciously merely because three frames were quietly taken out of the hive to make sure that the queen was safe? I may say that we did take the precaution of scenting both stock and swarm before uniting.—A. P. J., *Norfolk.*

REPLY.—The details given in query referred to were not sufficiently clear and explicit to enable any one at a distance to very accurately diagnose the case. We might ask (*a*), Why an "expert" should advise *re*-queening, because—with brood in the hive—no *eggs* were found at end of August? and (*b*) Why—if the operation was advisable—was the queen, it had been decided to supersede, not removed before uniting? The reply given on p. 383 was merely intended to convey our impression that the "hundred or so of dead bees" had met their death through some lack of proper precaution at the time of uniting the two stocks. It is quite possible that the two queens may have been kept apart, owing to inactivity of the bees in the intervening time between "uniting" and the disturbance noticed, and that the excitement previously induced by opening the hive brought about the meeting of the queens and the usual fight for supremacy which eventually caused the death of the bees. This being the view we took, there is, we think, no missing of the "point" in the reply given last week, seeing that the precaution of removing one queen would probably have prevented the mischief. The omission to state that the bees were scented before uniting shows how easily important details are omitted by correspondents when asking for the "why and wherefore" of bee-doings.

[658.] *Autumn Robbing.*—Will you kindly advise me what to do in the matter of a bad case of robbing? I have closed the hives all day and used carbolic freely, but when the hives are opened the nuisance is as bad as ever. It has been going on for about three weeks now. I am feeding, of course, and open the hives in the evening.—J. L. WINBORN, *Croydon.*

REPLY.—The subject of autumn robbing has been dealt with in each issue wherein appears fortnightly "Useful Hints." For details please refer to *B.J.* for August 18th, September 1st, and September 15th last. To repeat what has already appeared would be tedious repetition, but we may say that hives should not be quite closed as a preventive of general robbing; rather have entrances narrowed to one inch or less and a piece of rag fixed up on each side of the doorway, keeping the said rag occasionally moistened with carbolic acid.

[659.] *Diseased Bees.*—Having been a constant reader of the *B.B.J.* for some years, I have had much information in the same. I shall thank you for examining a parcel I forward with this post, and for your reply in *Journal* to following queries. 1. Are the bees in No. 1 Carniolan, and what is the reason that many of them are for several days of a whitish colour? Is it a sign of disease or otherwise? 2. Is the piece of comb free from foul brood? This is not from the same hive as the bees came

from, nor from the same apiary, so there is no connexion between the one and the other. We have had a very poor season this year for honey, having had but very few sections filled; but all worked up without honey, and feeding will, I hope, keep them alive for next season, and I hope for better takings. I am afraid that my friend in catching the bees which I send you has crushed them, and made it more difficult for you to examine.—R. P. C.

REPLY.—1. Bees received have no trace of Carniolan blood that we can see. The whitish colour is most probably pollen from the Canadian balsam. 2. Comb sent is affected with foul brood. The stock from which it was taken should be seen to at once.

[660.] *Bee Management.*—Having been very unsuccessful with my bees, I shall feel greatly obliged for a few simple detailed instructions as to the management of my five hives, which at present stand in the following condition:—No. 1. A swarm taken the first week in June, has six frames more than half-filled with honey. No. 2. A July swarm (six frames) has very little honey. No. 3. One hive, containing nine frames with little honey. No. 4. Another, with eight frames, from which a crate of sections (of which fifteen were nearly filled) was recently taken. No. 5. A hive with eight frames, built out until they join each other, are almost full of honey. No honey, excepting the sections mentioned above, have been taken, nor have the bees been fed. Should they be fed now? If so, how should it be done, for what length of time, and what quantity of food should be given? Would the present be a suitable time to dispose of them, and what would be the value of each hive? All are bar-frame hives—one with glass sides and back.—NOVICE, *Stonehouse, September 28th*, 1892.

REPLY.—As a general reply to the above queries, we must refer our correspondent to some simple book on the management of bees (say, *Modern Bee-keeping*, price 6*d.*), it being obviously impossible for us to give the information sought in these columns. The five hives referred to may be dealt with by feeding up such as have less than twenty pounds of food for wintering on until that quantity has been stored. The best time to dispose of bees is in the spring, but we cannot attempt to fix the value; so much depends on the hives, and the condition of the stocks at time of sale. If they were sold now at least 20 per cent. would be deducted from the spring value because of the risks incurred in wintering them safely.

Echoes from the Hives.

Earl Shilton, September 29th, 1892.—The season here has been a poor one. Most of the hives I have driven have only averaged about ten pounds, and one or two people have taken none up at all. I did not have any chance of seeing how bees were worked in South Wales the whole three weeks I was staying there—I only saw two hives all the time. I will try and send you a fuller account of takes of honey later on. The honey has granulated very early here.—W. S. FULSHAW.

Northants, October 2nd.—The last few days in September were woefully wet and cold, so that the bees had but little inducement to venture abroad; indeed, they appear now to have settled down for winter. During the early and middle parts of the month, the temperature was high, and the bees were unwontedly active, carrying in enormous loads of pollen, and looking like dusty millers as they returned from revelling among the plentiful blossoms of Canada balsam. As a precaution, I have sent each stock to bed with a one-pound dose of physic (Naphthol Beta), and a medicated cake under the pillow, hoping thereby to keep bee-cholera in abeyance. Wasps have been particularly numerous and troublesome. Possibly this may account for the unusual irritability and ferocity of our little friends, the bees, this fall. Over-manipulation has certainly not been the cause in my case.—E. B.

Bramois, Valais.—The honey harvest here has been about an average one, about forty pounds per hive. We hoped for better results, but at the height of the flowering of the honey-yielding plants an intense drought set in, not entirely stopping the honey-flow, but reducing our expectations considerably. The preparations for our cantonal exhibition on the 20th to 24th October are rapidly progressing, and every bee-keeper will show what he has best. You cannot imagine what pleasure it gave us to receive the photographs. I could not leave off contemplating them, for each one of those views reminded us most vividly of your visit, unfortunately too short, amongst us, and of your pleasant instructions which we all listened to with so much interest, and which we shall never forget. We are in the midst of our vintage. The grape harvest compared to last year is good, both in quantity and quality. The prices are tolerably high.—ED. LORETAN.

Algiers.—Shall I have the pleasure of seeing you once more before I leave for Palestine? If not, I hope to hear from time to time something from you, and shall be glad to let you know something about our work in Palestine. Perhaps you will pay us a visit when you are on your travels eastwards. Lately we have had some days of sirocco. The heat was terrible, we had forty-one degrees centigrade (106° Fahr.) in the rooms, but in some places it reached forty-seven degrees (116½° Fahr.). Still, our bees did not suffer, but the vines did, and many look as though boiling water had been poured over them. Have you had a good honey harvest in England? Do you ever have it hot? I leave early in October. My brother moves from here to Kabylia.—EMILE BALDENSPERGER, *Algeria.*

INSTRUCTION IN BEE-KEEPING.

It is now generally known in the county that the Secretary of the Yorkshire Bee-keepers' Association (Mr. R. A. H. Grimshaw) has been engaged since March last in delivering free fortnightly lectures on the modern and rational methods of bee-keeping, as opposed to the old-fashioned, but wasteful and cruel, skep system. These class lectures are given under the auspices of the Technical Education Committee of the West Riding County Council, and are held during the winter session at the Yorkshire College. On alternate Saturday afternoons they are given in the open-air at various bee-gardens in the West Riding, so that absolutely practical illustrations of the uses of the necessary appliances may be given with the manipulations of modern hives of live bees. The last of these outdoor classes for the summer session was given on the 10th inst. at the apiary of Mr. W. Dixon, Pannal, in the bee-tent of the Y.B.K.A., when Mr. Grimshaw gave practical illustrations of "bee-driving," "extracting," and other operations embraced in what is known as "modern bee-keeping." During the winter months the evening class-lectures will be held fortnightly, at the Yorkshire College and other centres.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

September, 1892.

Rainfall, 3·07 in.	Sunshine, 142·75 hrs.
Heaviest fall, 96 in. on 29th.	Brightest day, 8th, 11·15 hrs.
Rain fell on 11 days.	Sunless days, 2.
Above average, 1·27 in.	Below average, 28·96 hrs.
Max. temp., 65° on 12th.	Mean max. 60°.
Min. temp., 33° on 18th.	Mean min., 46·8°.
Min. on grass, 30° on 18th.	Mean temp., 53·5°.
	Max. barometer, 30·53 on 5th.
Frosty nights, 0.	Min. barometer, 29·56 on 30th.

A damp and cheerless month.

L. B. BIRKETT.

EARL SHILTON, LEICESTERSHIRE.

August, 1892.

Maximum temp. 21st	91°
Minimum „ 20th	44°
Mean max. „ 21st	75·6°
„ min. „ 10th	54·6°
Mean „	66·06°
Rainfall	1·97 in.
Highest rainfall in 24 hrs., 30th	0·46 „
Rain on	11 days.
Prevailing wind	S.

W. S. FULSHAW.

Bee Shows to Come.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C. Very liberal prizes in the four classes for honey. Open to all.

November 10th.—Autumn show of the Essex B. K. A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax, open to members of the Essex B.K.A. only. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. F. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

SONG.

(From Tennyson's new play, *The Forester*.)

The bee buzz'd up in the heat,
"I am faint for your honey, my sweet."
The flower said, "Take it, my dear,
For now is the spring of the year.
So come, come!"
"Hum!"
And the bee buzz'd down from the heat,
And the bee buzz'd up in the cold
When the flower was wither'd and old.
"Have you still any honey, my dear?"
She said, "It's the fall of the year,
But come, come!"
"Hum!"
And the bee buzz'd off in the cold!

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

CHARLES BACON.—*Using Naphthaline.*—We cannot advise as to the use of "crude naphthaline," or naphthaline in any form other than that sent out from this office. So much mischief came to our knowledge through its use, owing to the difference in strength, as purchased from various sources, that we advise no other for use in beehives except that of which we have direct knowledge.

*** We have to thank several correspondents for the promise of donations of honey for the Chicago Show. We shall probably publish a full list of the names of donors later on.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—October has begun in bad fashion for bee-keepers who have any outside work still left undone, rainstorms being of almost daily occurrence, in some parts quite torrential in severity and culminating in disastrous floods. Of the past month of September our correspondent in Sussex reports it "a damp and cheerless month" in that county. A leading daily paper has also an interesting summary of the weather from which we extract the following particulars:—

"The type of weather which prevailed during September was distinctly in agreement with an average English autumn, and the change which set in over our islands at the close of August was characteristic of the season, and although the weather during the greater part of the month was fair over the south and south-east of England, there were very few days which were summer-like. The month opened with very unsettled weather, and gales, with heavy rains, were experienced in many parts of the British Islands. After the first few days the conditions were fairer and drier in the more southern and eastern parts of the British Islands; but the weather was generally cloudy in the western and northern districts, with frequent, although mostly slight, falls of rain. The following week, ending the 17th, was generally fair and dry over England, and the days were somewhat warmer; but the weather was dull, unsettled, and very rainy over Scotland and in the north of Ireland; while on the 15th and 16th a strong gale was experienced on our north-western and northern coasts. After the middle of the month the weather became generally unsettled, and heavy falls of rain occurred in many parts of England, Ireland, and the north of Scotland; but the temperature for the period was fairly high, except that some nights were exceptionally cold in all parts of the kingdom, and frost occurred over nearly the whole of England on the 18th. The closing week was cold, wet, and very unsettled, and sharp ground frosts occurred at times; thunderstorms were experienced in nearly all parts of the kingdom. At the close of the month a large barometrical disturbance moved slowly over the kingdom, bringing heavy rain, with thunderstorms and hail, and a very decided fall of temperature. The results for the month show that the mean temperature was everywhere below the average."

LATE FEEDING.—Several communications have already reached us complaining of the difficulty experienced in getting bees to take food, in consequence of the cold. As winter approaches there is, of course, increased difficulty in sufficiently rousing bees from their torpor to feed well; but with a good "rapid feeder" it can still be done in the method described in "Hints" on September 15th last, *i.e.*, to give the food *warm* after nightfall, without removing coverings, by setting on a thin board with a hole corresponding to those in the quilts. A little of the warm syrup poured in and just round the feed-hole, before setting on the feeder, will start the bees into activity, and the warmth of food and "feeder" soon coaxes them into the latter in great numbers. On a cold night last week we got an almost foodless stock—of which the bees were very torpid and sluggish at starting—to take down a dozen pounds of syrup before morning, and the next evening they were actively ready for a second supply.

WINTERING STOCKS ON SHORT STORES.—Wherever bees are put up for winter on

less than fifteen pounds of food, it should not be forgotten to supplement the "short commons" by a good-sized cake—weighing, say, four pounds—of soft candy beneath the quilts. This candy will usually be consumed before the food stored in the combs, and will greatly assist in carrying the colony over winter safely.

Foul Brood and Medicating Winter Food.—We earnestly hope that no reader has neglected the precaution of medicating all syrup given to bees for wintering on, cases of foul brood still being reported, and some correspondents innocently inquiring "how to cure it without delay." It need hardly be said that little or nothing can be done at this late season by way of cure, beyond removing all combs containing dead brood, and wintering the bees on a few combs free from sealed cells with foul-broody matter in them. This and the giving of medicated food—pouring the latter into the combs if necessary—and a few pieces of naphthaline on floor-boards, is all that can be done. Weak stocks now discovered to be affected with foul brood should be promptly destroyed, it being a waste of time—to say nothing of the risk to contiguous colonies—to keep such weaklings over winter in the hope of eventually curing them.

The Equinoctial Gales.—Recent high winds should remind us that the periodic gales of autumn are now due, and must be guarded against so far as can be by making hive roofs, stands, and all movable things safe against all the winds that blow.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of September, 1892, was 2764*l.* (deduct from previous entries, 200*l.*)—*From a return furnished by the Statistical Office, H.M. Customs.*

THE SCIENCE OF BEE-KEEPING.

Pollen Gathering: with some New Discoveries on the Formation of the Pollen Pellets.

(*Continued from p.* 391.)

Another common error in several standard works is to regard the brushes, so called, which the bee carries on the inner part of its hinder legs, as appendages used to gather pollen. Take as an example Professor Cook's *Bee-keepers' Guide* (13th ed., pp. 126, 129), where he says:—"Opposite the pollen cavity of the first tarsus, or on the inside, are about eleven rows of stiff hairs. They are of a golden colour and very beautiful. These may be called the pollen combs, for it is they that gather, for the most part, the pollen from the gathering-hairs of legs and body, and convey it to and pack it in the pollen baskets."

Now, the hind legs of the bee play positively no part whatever in gathering pollen. That fact alone disposes of the question; but nature has specially ordained that the brushes shall not gather pollen. I maintain that the brushes or combs, so called, are not brushes at all, but a special apparatus adapted to a special purpose, and must be kept clean and free from outside substances of any kind excepting the specially prepared substance which is conveyed to them. In fact, the so-called brushes cannot even be used by the bees to remove obstructive pollen grains from the under part of the body, the bees doing this with the inner part of the tibia.

In the same paragraph, the author speaks of "the gathering-hairs of legs and body." It is perfectly misleading to say of these hairs that they "gather," because, if we except the hairs along the side and near the extremities of the centre and of the fore legs, which assist these limbs to gather pollen, the only use to which the hairs are applied is to *receive* or *retain* pollen.

The most interesting part of the whole subject, however, is the manner in which the pellets are formed, and, in order to show how our best-known authorities have gone wrong, I quote a passage from the work of our very esteemed friend, A. I. Root, editor of *Gleanings*. In the *A B C of Bee-culture*, edition of 1887, p. 183, Mr. Root says: "Well, between the pollen-gathering legs and the pollen-basket legs are another pair. These play a very important part in getting the pollen into the pollen baskets. With the tongue, fore leg, and middle leg the bee pads up the pollen and honey until there is quite a wad of it, and then, with a very pretty sleight-of-hand, he carries this little cake, scarcely so large as the head of a small pin, between the middle and fore leg, back to the pollen basket. When in place, it is firmly pressed into the basket, and then neatly patted down with the middle leg, much as a dexterous butter-woman gives her neat rolls the finishing taps. This motion seems to be a sort of automatic movement, for the bee is the while intently engaged with tongue and fore feet in gathering more pollen from the flowers. The operation may be witnessed easily by taking on your finger a bee that is gathering propolis from some old quilt or hive. As he picks and pulls off bits of wax with his mandibles he will convey them back to the pollen baskets much more leisurely while he stands still, and you can easily follow the whole proceeding."

Who would trouble to solve the question of the formation of the pollen pellets after the researches of such an able observer, and who would question the accuracy of his deductions after reading in his work what appears such a natural solution of the problem? What more natural, one might say, than that the bee should carry the pollen with the centre legs to the

pollen baskets in the same way it carries there the propolis at another time?

Yet what Mr. Root has seen, and what nearly all observers up to the present day see with him, is but a delusion, a mental picture, not an actual fact, *because the bee never carries prepared pollen from the centre legs to the pollen baskets.*

It is very interesting for one who, like the writer, has paid close attention to this subject over an extended period, to notice what a stumbling-block the solution of the formation of the pollen pellets has proved to every author of works on the honey-bee.

Mr. F. R. Cheshire says, in his work, *Bees and Bee-keeping* (vol. i. pp. 131, 132): "So soon as bees have loaded these combs they do not return to the hive, but transfer the pollen to the hollow side of the tibia, seen at *ti*, A. This concavity, corbicular, or pollen basket, is smooth and hairless, except at the edges, whence spring long, slender, curved spines, two sets following the line of the bottom and sides of the basket, while a third bends over its front. The concavity fits it to contain pollen, while the marginal hairs greatly increase its possible load, like the sloping stakes which the farmer places round the sides of his waggon when he desires to carry loose hay, the set bent over accomplishing the purpose of the cords by which he saves his property from being lost on the road. But a difficulty arises. How can the pollen be transferred from the metatarsal comb to the basket above? Easily; for it is the left metatarsus that charges the right basket, and *vice versâ*. The legs are crossed, and the metatarsus naturally scrapes its comb face on the upper edge of the opposite tibia, in the direction from the base of the combs towards their tips. These upper hairs, standing over W p B, or close to *ti* A (which are opposite sides of the same joint), are nearly straight, and pass between the comb teeth. The pollen, as removed, is caught by the bent-over hairs, and secured. Each scrape adds to the mass, until the face of the joint is more than covered, and the hairs just embrace the pellet, as we see it in cross-section at G. The worker now hies homewards, and the spike, as a crowbar, does its work." (The letters in the text quoted refer to the figures given in the plates in Mr. Cheshire's book.)

"Easily," says Mr. Cheshire, seemingly quite unconscious that he was dealing with a question which had puzzled all previous authors before himself to unravel, and which might have remained still unsettled were it not for my own special discovery, which supplies a veritable missing link in our present knowledge of the honey-bee. Mr. Cheshire attempts to overcome the difficulty which confronts him by throwing out a mere conjecture. But his conjecture is wrong, from the very fact that one of the peculiarities of the bee is that it never crosses its hinder legs! When forming the pellets they always work parallel to each other; at death only can they become crossed and distorted. Mr. Cheshire was, therefore, invoking a perfect impossibility!

If the prepared pollen is not conveyed to the pollen baskets by the centre legs, nor by the sides, by the bee crossing its hind ones, how does it get there? That is what will be explained by the system discovered by the writer, as follows:—

The System of Pollen Gathering and the Formation of the Pollen Pellets.

It will be necessary, in explaining the system, to use two new terms, which I will at once proceed to define. (*a*) The pollen brushes or combs, so called, on the inner part of the hinder legs, will be called the *compressors*, which, as I shall show, is their proper appellation in conformity with the use to which they are applied. (*b*) The curry-comb, or pecten and velum, near the end of the inner part of the joint in each of the fore legs, and previously termed antennæ-cleaners, will be designated *tongue-extenders*, seeing that they are used to extend the tongue when the bee desires to draw a fresh supply of saliva, and so used every now and then during the formation of the pellets.

The above explanations, together with the information conveyed while refuting erroneous ideas on the subject, will enable the reader to understand the rules referred to, which, for easy reference, will be numbered, so as to lead the reader on point by point and section by section.

Rules.

1. All pollen gathered by the honey-bee receives an admixture of saliva outside the hive, before being formed into pellets.

2. In gathering pollen the bee uses only the tongue, the mandibles, the fore legs and the centre legs.

3. The mouth of the bee is a receptacle into which all pollen gathered must pass to undergo a certain process and to receive its charge of saliva.

4. The tongue is the prime organ for gathering pollen, besides being the only organ that transfers the pollen to the mouth for manipulation, and from the mouth after it has undergone the necessary process therein.

5. The mandibles are auxiliaries of the tongue in gathering pollen, the tongue transferring it to the mouth for manipulation.

6. The bee has an auxiliary pollen store, or dry-pollen receptacle under the thorax, *known and used by the bee as such*, and all dry pollen placed there is as secure as in a closed basket.

7. The fore and centre legs are also auxiliaries, the pollen gathered by them being transferred to the dry-pollen store mentioned in Rule 6.

8. The tongue removes the dry pollen from the auxiliary store according to requirements, and transfers it to the mouth for manipulation.

9. The process which the pollen undergoes in the mouth of the bee, with the help of the mandibles, appears to be the breaking or disintegration of some of the pollen grains, the possible elimination of some of the pollen husks, and giving the pollen a charge of saliva. It may also undergo some other process, because it remains in the mouth a comparatively long time.

10. The prepared pollen, as removed from the mouth by the tongue, is taken by the ends of the fore legs, which transfer it in turn to those of the centre legs, and these latter place the double handful thus held between the compressors at their furthest and lowest corner.

11. The work of the compressors appears to be to compress the pollen and expel the minute air-bubbles which gather while the prepared pollen is being mixed with the frothy saliva of the bee. Also, perhaps, to destroy minute insects or their eggs which the pollen may contain, and to pass the pollen up *through the pollen passage.*

12. The "pollen passage" above referred to is situated at the top of the compressors, and forms the opening of the joint between the planta or metatarsus and the tibia: that passage, open on one side and joined by the articulation of the joint on the other, is similar in action to the mouth of a carpenter's plane, allowing the prepared pollen to pass from the face of the compressors to the pollen-basket cavities of the legs; just as when planing wood the shavings pass from one side to the other through the mouth of the plane; the pellets are thus formed at the commencement from their lowest side, and adding fresh prepared pollen from their under side between the pellets and the face of the pollen baskets.

The "pollen passage" described in Rule 12 is that which the writer has discovered and already alluded to as supplying a most indispensable missing link in our present knowledge of the honey-bee; and it has enabled him to determine and locate every movement performed by the bee in gathering pollen and in forming the pellets, as well as to frame the present indispensable system, the want of which has been the cause of so much error in the past.

13. The comb or pecten, which forms the extremity or lower end of the tibia, prevents the prepared pollen as it is forced up the passage by the action of the combined compressors from running up the inner part of the leg or tibia, as sometimes happens with bees which have done much work and have some of the teeth or bristles of the comb broken or missing. In this case, it is brought below the comb again by the bee drawing up its leg against the body. This comb, therefore, we shall call the *pollen-preventer comb.* It serves almost the same purpose as, and is somewhat analagous to, the iron which serves to guide the shavings up in the carpenter's plane.

There are hairs on the opposite side of the passage, curved or bent round towards it, running along the outside end of the metatarsus and auricle. These hairs serve to keep the passing pollen down against the tibia on its way through the passage and as it enters the cavity; they also allow and assist the pellet to extend itself over the outside of the metatarsus. There are also *long bristles* at the outside corner of the pecten and tibia bent round at right angles, the bent portion of which is of great length, extending all along the width of the passage bordering the curved hairs just mentioned. They, in conjunction with similar curved hairs round the auricle, close the apparently open side of the passage, so far as guiding the pollen at that part is concerned. Their bent portions, together with the *long, bent bristles* on the opposite side near the joint, form a bridge, which serves to bind the pellet by the centre, and thus retains it in the cavity. The bristles that border the pollen baskets also serve the same purpose.

The double set of long bristles or binders above referred to—of which there are nine or ten springing from the outer edge of the joint on the fore part of the leg, and only four or five from the after corner of the tibia—are all very flexible, as also are the bristles along the edges of the cavity on the tibia and those at the outer edge of the planta. These edging bristles point backward, and are so disposed that, while retaining the pellet in the basket, they allow the bee to dislodge it easily backwards into the cell.

14. The cavity of the pollen basket is deflexed for a short distance up, after which it runs up in an outward direction to give resistance along with the outside hairs to the ascending pollen, and thus cause it at a certain point to spread itself downwards over the outside part at the upper end of the planta. In the same hollow or cavity there is a slight tapering ridge or mound running up the cavity, which, with other minor undulations, causes the pollen to spread itself sideways, principally towards the outer edge of the leg. What beautiful and indispensable provisions of nature are these, and how well adapted to their purpose! In them the observer cannot fail to see the hand of the Great Creator of the universe.

15. The bee alters or modifies the direction of pollen in forming the pellets by causing the upper or the lower edge of the face of the compressors to bear most, and also by keeping its hinder legs back at the commencement, and bringing their ends forward from the joint of the pollen passage when the pellets are nearing completion.

16. The extremity of the centre legs—which seem to have an extremely delicate sense of touch—keeps the bee constantly informed as to the condition and progress of the pollen pellets, and by their means it removes any excrescences on the outside, transferring such back again between the compressors.

The centre legs, therefore, besides placing the pollen between the compressors (see Rule 10), attend to the condition of the pellets, as the latter become larger; but this work is always done while the legs are empty of prepared pollen, and immediately after they have placed a handful between the compressors, thus utilising the time at disposal before they are required to take the next handful from the fore legs.

It is this occasional but continual action of the centre legs on the outside of the pellets (as mentioned in Rule 16) which has deceived all observers up to this day. Thus the

manner in which Nature has decreed that the pollen pellets of the bee should be formed could not possibly be more opposed than it is to the views hitherto prevailing, as expressed by various writers on the subject. Every observer who has endeavoured to unravel the mystery with respect to the formation of pollen pellets has quite naturally believed that he was contemplating the face of the picture, while he was all along beholding only the back of it; the hinder leg and pellet turned towards him presenting that surface only, and hiding from his view the true face of the picture, which was on the inner part of the other leg. From whichever side of the bee observations were taken, the same delusion presented itself, because of attention being concentrated on the side nearest the observer, and this, coupled with the extremely rapid movements of the insect, has completely deluded our good friend A. I. Root, and with him quite a respectable army of co-believers.

17. The bee has a pair of compressor-cleaners, consisting of a single row of stiff bristles at the extremity of the planta on the inner part of each hind leg. They are used to remove dry pollen or other extraneous matter from the face of the compressors, and to throw the same down on to the ground.

18. When a bee takes wing, in passing from flower to flower, if it has the hinder legs together (that is, with the compressors joined), it is gathering pollen to a certainty. Otherwise it will hold its hinder legs wide apart, and then is not gathering pollen.

Rule 19, and last, will enable any one to know instantly whether a bee is gathering pollen or not. This rule is based on the fact that the proper conditions for compressing prepared pollen are present when it is on the wing, and that the bee always uses the compressors after visiting flowers, so soon as it takes wing again, if it has been gathering pollen.

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "The Manager, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" (*see 1st page of Advertisements*).

THE CHICAGO EXHIBITION.

[1174.] Unfortunately I was not at the meeting when it was decided that it was advisable to send British honey to the Chicago Exhibition. I, in common wth many others, will be glad to learn through your columns what are the benefits that will accrue to British bee-keepers from sending such an exhibit. We shall be sending our goods to a country which by reason of its tariffs absolutely shuts its markets to our produce, while we open ours quite free to anything that it chooses to send here. I am of opinion that such a country should be left severely alone, and I also think that the money of the B.B.K.A. could be far better spent here in promoting the interests of British bee-keepers. The Association is always lamenting the smallness of its funds, and to spend these funds in such an unprofitable manner is not, I think, justifiable. I trust, too, that British bee-keepers will hold their hands in the matter of donations of honey, bearing in mind that they are asked to send these gifts to a country that has always pursued a most selfish, one-sided commercial policy.—T. B. Blow, *Welwyn, October 7th.*

[Our correspondent quite misjudges the case in supposing that anything in the shape of a commercial speculation is intended in sending an exhibit to Chicago. We do not expect to export British honey to America, and don't want to; but we *do* hope that our bee-keepers have sufficient patriotism left in them to show our American brethren a sample of the honey produced in the mother country, and that British bee-keepers are proud of it.—Eds.]

A HOME-MADE EXTRACTOR FOR SECTIONS.

[1175.] The following are the results of my first season with two hives. No. 1, fifty pound sections; No. 2, fifteen pound sections, and stock divided into three lots; no swarms. Also several pounds of honey from half-filled sections, which I extracted with a "home-made extractor," made with an egg-whisk, which answered capitally and cost nothing, made as follows:—Screw two boards a quarter inch larger than the section, one on either side of whisk. Screw or nail on sides and bottom so as to extend on either side to receive the sections. Bind a piece of wire round three or four times to prevent sections falling out. Fit a board (with a slot cut as far as the centre to receive stem of whisk) over a pail or any vessel, and all is complete. In manipulating I found a pair of kid gloves very useful, as, although the sting penetrated through, they kept the poison back. I should be much obliged if you would advise me as to the best way of packing sections to send by rail.—A. Hodges, *Kings Langley.*

[Tie the sections together in parcels of three, and pack firmly with a "bed" of hay or paper shavings on all sides. No sections should be sent by rail of which the comb is not attached to the wood of the section on all sides.—Eds.]

HEATHER-FLAVOURED SYRUP FOR FEEDING BEES.

[1176.] I enclose you a cutting from our local paper, the *Blairgowrie Advertiser*, as it may interest you to learn how some people get

their "heather *honey*" (?). Within three miles of this there is a bee-keeper working between sixty and seventy hives the same style.

I keep about twelve hives myself for pleasure, but have only got sixty pounds from the lot this season—it has been so cold all along.—J. B.

The cutting referred to reads as follows:—

"SIR,—Would you oblige with the insertion of the following? A well-known bee-keeper in the Carse of Gowrie has had about forty hives of bees at Glenericht during the heather season, which has been a very poor one for honey. This bee-keeper, however, is making the deficiency up otherwise. He has received from a Blairgowrie merchant over a ton of sugar, and having cut a lot of heather in bloom he boils it and mixes the solution obtained from this with the sugar. He then pours this mixture into troughs, ten to twelve feet long, and about nine inches deep (something similar to sheep troughs), and feeds the bees from these, laying in bunches of heather and straw to keep the bees from drowning. Now, if this was meant for winter feeding, twenty pounds of sugar would be quite enough for each hive, even although they had no stores of their own. Three practical bee-keepers visited a neighbouring apiary where the bees were receiving the said food last Saturday, and they found the bees working as well as they could do in any day in July, although the day was very cold. The bees were building section comb and filling with honey (?), and finishing the sections as beautifully as any that could be seen at a honey show. What does the owner of this apiary mean by giving the bees such a quantity more than is needful to winter them? Does it not look as if he had a desire to flavour and colour the honey (so-called) and utilise as heather honey? This bee-keeper has brought his bees to Glenericht for the last few years and received no surplus honey, but this season he seems determined to have a plentiful supply. Shop-keepers had better be on the look-out.—Yours, &c., A BEE-KEEPER."

[We think conduct like that described will soon bring its proper reward. There need be little fear of such a practice becoming general or even common.—EDS.]

BEES IN WEXFORD.

[1177.] I am sorry to say the year 1892 is the worst I have experienced since I commenced keeping bees on the modern system five years ago. My yearly average till this season was never below forty sections per hive; this year it barely reached twenty. I count my average from the number of stocks I commence the season with. I began this year with fourteen stocks, and increased to twenty, from swarms and driven bees. I took off about 280 finished sections, together with about 180 unfinished ones, with which I fed driven and weak stocks.

The ungenial weather that prevailed during the early months of summer, and continued in this part of the country, with the exception of two weeks in July, causing a scarcity of clover and other favourite blooms, rendered the labours of the bees most unproductive.—J. D., *Wexford.*

A DRONE CEMETERY.

[1178.] As there were a quantity of bees clustering outside the entrance of a hive from which I had taken the sections off, I concluded it was for want of room; I therefore bored a hole in the side of the hive, and screwed a box, with a corresponding hole, to it. The bees made this box a veritable death-trap for the drones, evidently driving them from the hive, and preventing their return. On opening the lid of the box a few days later, I found hundreds of drones had thus been made to enter "Charon's boat."—A. HODGES, *Kings Langley.*

Queries and Replies.

[661.] *Two Queens in One Hive.*—I have kept bees in frame hives for about four years, during which time I have tried most improvements with encouraging success. I have six stocks, one of which, on thirteen frames, I wished to divide into two lots, introducing a second queen to the queenless one; but having, I am afraid, failed in my attempt, I wish to state my case, and ask your valuable advice through the *Bee Journal.* I proceeded thus: I took some condemned bees from a neighbour to supply a queenless stock. There were two lots, so I had a queen to spare. I divided the large hive by a perforated zinc division, and cut a second flight-hole in the hive. I gave each half about the same quantity of bees, and placed the new queen (caged) with the half where I cut new flight-hole. I noticed fighting at the entrances. I released queen on the third day, but found that a good many bees had gone back to the old queen. On looking next day I found the new queen outside on the flight-board. I caged her again, and replaced her in another frame with bees and brood from the other half. I released her again in two days, and did not notice anything unusual, or even fighting, so left all alone for a week. I had a sheet of queen-excluder zinc on the top of frames, with a passage above the depth of a bee-space, so that the bees could get at each other, but not the queens. Anxious to know if new queen was all right, I looked on Friday last, but failed to find her on the combs. The bees cover about three frames, but in the other half five or six. I looked again on Saturday. I even took out the frames and shook them, letting the bees run in through entrance, but still failed to see the queen. Now, being anxious to try the two queens as above stated, and being in doubt as to the whether the queen is still there, would you kindly advise me what is my best course to adopt under the circumstances?

The season here has been pretty good. I had 140 pounds of honey, including sections and extracted honey from five stocks, although the district is not one of the best, being situated amongst collieries and ironworks.—WILLIAM GREENER, *Gowerton, October 3rd.*

REPLY.—So long as the bees of the stock were not effectually divided, but allowed to mix by passing through the excluder zinc, neither portion could be considered queenless, hence the refusal of an alien queen by one portion of the bees. By what is known as the "Wells" system, the bees as well as queen of the divided hive are kept apart by perforated division-boards, through which the bees cannot pass, until supering-time of the following year, by which time both lots of bees have acquired the same odour, and will consequently work amicably together in the same super. Departure from this principle no doubt caused failure in your case.

[662.] *Combs Broken Down in Skep.*—A neighbour of mine has a stock of bees in an old skep just purchased. On examining them I found the combs all broken down from within about three inches of the top of skep, and lying in a mass on the block or stand, which was formed by a grassy turf turned upside down. Having quieted them by a puff of smoke and a little syrup, I turned them up, and with the aid of wooden skewers fastened in the best of the broken combs, which contained neither honey nor brood, and put them on a clean board. They had not more than eight or ten pounds of honey, and I saw no brood, and could not say, without driving, whether there is a queen or not. Your advice as to how best to save them will greatly oblige. 1. Is it too late to drive the bees and feed them up with syrup, or will it be practicable and safer to feed them up in the old skep, which is a very small one, and has a small hole in the crown stopped with a cork? 2. It is a very weak lot indeed. Would it be too late—and if not, advisable—to buy a pound or two of bees to strengthen the stock, and so improve the prospect of keeping them through the winter?—INQUIRER, *Launceston.*

REPLY.—1. Quite too late. Any hope there may be of wintering the bees safely lies in keeping them on the combs they now occupy. 2. If the queen is young, and there are sufficient bees to fill three or four seams, or spaces between the combs, they may do all right if fed up at once with warm, well-made syrup. Otherwise, "a very weak lot indeed" is not worth the cost, trouble, and risk of buying and uniting bees to carry it over the winter.

[663.] *Preventing Bees from Gathering Honey-dew.*—I send herewith some honey in a section from a friend's hive at Ascot. It was stored in the early part of August. It is very black-looking in the comb, and when a little is allowed to run out from the cells it appears to consist partly of clear honey and partly of a brownish sediment. The taste is also disagreeable. It appears to me that the bees have stored the secretion of the *aphis*, commonly called "honey-dew," I suppose owing to a temporary scarcity of honey and an abundance of honey-dew. Other bee-keepers at Sunninghill and Winkfield have much of their honey spoilt in the same way. I should be greatly obliged by your telling me if the honey I send has this admixture of honey-dew, and whether there are any means of checking this unusual practice on the part of the bees. It seems to me that as soon as it is discovered that honey in sections is being tainted in this way it might be advisable to feed liberally with honey for a fortnight or so until the danger be past. I should be glad to have your advice, and to know whether other bee-keepers have had the same unfortunate experience this year, and what remedy can be suggested. The district referred to is on the borders of Windsor Forest, where there has been a great abundance of honey-dew close at hand.—A. J. ROBERTSON.

REPLY.—The honey is partly Aphidian honey (or honey-dew), but not nearly in so great a proportion as some we have had submitted to us lately. As to preventing bees from gathering the objectionable product, it could not be done in the way suggested, even if feeding bees while supers are on were quite legitimate, which it is not. Bees will go where honey-dew is plentiful if there are not counter-attractions in the fields. Feeding at home would not answer as a remedy.

IMPROVEMENTS IN APPLIANCES DURING 1892.

Mr. W. P. Meadows, of Syston, sends us a list of new or improved appliances brought out by him during the past season. They comprise first, the "Warwick" Rapid Feeder, of which the

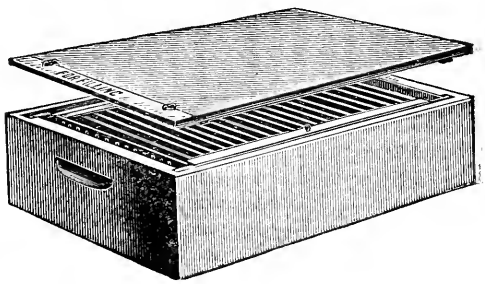

Fig. 1.

maker says:—"A new feature is the divisions running at right angles instead of parallel with entrance, so that bees have not to be confined to one or two divisions, or to pass over several to get at the food. The inside is removable for dry sugar, bits of comb, &c.; dividers fit into tin slotted ends, and can be instantly removed for washing." This feeder holds about nine pounds of syrup, and its construction may be gathered from the cut (Fig. 1) above. The syrup

trough is of tin, the divisions on which the bees stand while feeding being of wood; as is also the outer case and lid. The bees pass up to the syrup on each side of the trough, while the food is poured in at the left side, where a portion of the lid is seen to be hinged for refilling. Next is a feeder of smaller make, holding about five pounds of syrup (Fig. 2). This also, though the body is of tin, has a centre, or movable portion,

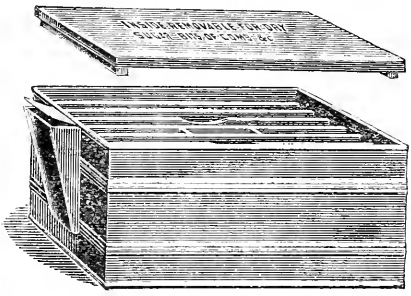

Fig. 2.

of wood, on which the bees stand to feed. The main difference from the other consists in the passage-way—through which the bees enter the feeder—being in the centre; so that it is adaptable for feeding bees in skeps as well as in frame hives. Then comes a travelling-box, or crate, for jars of extracted honey (Fig. 3). As will be seen it has a hinged lid with patent fastener and

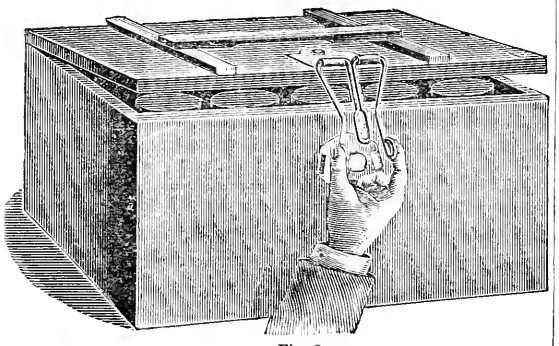

Fig. 3.

lock; the method of fastening and unfastening, as shown in the cut, being apparently very

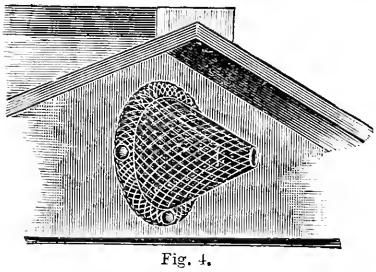

Fig. 4.

simple and secure. This box is fitted with corrugated paper to prevent breakage. Another improvement is the double-cone super-clearer for hive roofs (Fig. 4). In this an inner cone is supposed to entirely prevent the ingress into the roof of bees from the outside. Lastly, Mr. Meadows sends a useful little article for bee-keepers' use in the shape of a sleeve-hook for

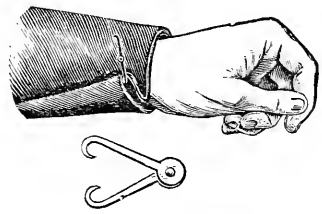

Fig. 5.

preventing bees from passing up the coat-sleeve while manipulating. The cut (Fig. 5) fully explains its use.

[We shall be glad to have illustrations and particulars from manufacturers of other improved appliances brought out in 1892 for insertion.—EDS.]

WEATHER REPORTS.

BAGNALSTOWN, IRELAND.

August, 1892.

Rainfall	4·90 in.
Greatest fall in 24 hrs., 8th	1·01 „
No. of days on which rain fell	20
Maximum temp., 14th	71°
Mean max. „	67·8°
Minimum „ 10th	43°
Minimum, mean	53·3°
Minimum ground temp., 10th	30°
Prevailing wind for month	s & sw.

September, 1892.

Rainfall	3·61 in.
Greatest fall in 24 hrs., 21st	·85
No. of days on which rain fell	18
Maximum temp., 10th	67°
Mean max. „	61·1°
Minimum „ 17th and 18th	27°
Minimum, mean	47·5
Prevailing winds	sw.

J. HENDERSON.

FERTILE WORKERS.

HOW TO DETECT THEM.

Generally I can readily detect the presence of laying workers; but sometimes I have seen cases where I could go no further than to say, "I *suspect* there are laying workers in that hive." They are often called *fertile* workers; but isn't *laying* the better word in every way?

The instruction in the *A B C* is good as far as it goes. "If you do not find any queen, and see eggs scattered around promiscuously, some in drone and some in worker-cells, some attached to the side of the cell, instead of the centre of

the bottom, where the queen lays them, several in one cell and none in the next, you may be pretty sure you have a fertile worker." Yes, if all these conditions are present, you may feel pretty sure; but you may have the most of them without a laying worker, and you may have a laying worker with very few of the prescribed symptoms.

"If you do not find any queen" doesn't count for a great deal, for sometimes you cannot find a queen, although a good laying one is in the hive.

I have seen "eggs scattered around promiscuously,"—at least somewhat promiscuously—"some in drone and some in worker-cells," laid by a good queen. And I have seen eggs "attached to the side of the cell" by a good queen. I had a fine imported queen one year that took it into her head to stick every egg on the side of the cell some distance from the bottom, and after a time she gave up her foolishness and laid her eggs properly.

On the other hand, I have had cases of laying workers without having the eggs laid promiscuously, or on the sides of the cells. The eggs were attached to the bottom of the cells, just as a queen would place them, and there was no skipping of cells, every cell in a given space containing an egg, and only one egg.

But if the next-mentioned condition should be found, "several in one cell and none in the next," I think I should feel more than *pretty* sure of the presence of laying workers. A queen may lay more than one egg in a cell, but I think it is only whan she is crowded for room; that is, room covered properly by bees, and in that case you will never find empty cells beside the ones containing a plurality of eggs—at least, I do not remember ever to have seen such a case.

As a general rule, if laying workers are present, you may find sure proof of their presence in the condition mentioned—several eggs in one cell and none in others; and I may add, that the drone-cells will be the ones that have the most eggs. Indeed, if I should at any time find a single drone-cell with more than one egg in it, I should feel pretty sure of a laying worker. Now, I shouldn't like to be very positive about it, but I *think* that, in every case where you find this irregular and multiple laying, you can get the same laying workers to do straight regular work that cannot be detected from that of a laying queen. Just take away all drone comb, and leave them nothing but worker.

It seems as if a laying worker found it more comfortable to lay in a large cell. So you will find drone-cells first used, then used over again, and afterward worker-cells. I do not remember ever to have seen two eggs laid by a queen in a drone-cell, and I do not remember to have seen two eggs laid by a laying worker in a worker-cell until pretty much all the cells were already occupied.

But one valuable means of detection is not mentioned in the *A B C*, viz., queen-cells. Almost always, if there is difficulty of detection, one or more queen-cells will settle it. If there are plenty of drone-cells there may be no queen-cell; but in such a case detection is not likely to be difficult. If there are no drone-cells, then the bees seem to cater to the comfort of their pseudo-sovereign or sovereigns by making a more roomy place in which to deposit eggs, and you find the queen-cell. In more than one case I have found not an egg in the hive, except one in a queen-cell, and that solitary egg settles the case in ninety-nine cases out of a hundred, the hundredth case being that in which a very poor queen has just commenced to lay in a too weak nucleus, and there never should be opportunity allowed for that hundredth case. But you will generally find more than one egg in the queen-cell. I think I have seen thirty or forty. They seemed to be piled up.

Of course, as soon as the brood is sealed, the projecting caps tell the story; but it is not desirable to wait so long. True, the projecting caps don't say whether a laying worker or a drone-laying queen is present, but I wouldn't give much to know which. The same treatment will do for either.

So, in addition to what the *A B C* says, it might be well to add, as signs of laying workers, queen-cells with more than one egg in them, as also a queen-cell containing one or more eggs when there is no unsealed brood in the hive, only eggs. I am inclined to believe that laying workers do not commence operations until all the sealed brood has had time to hatch, but I am not sure of this.

In brief, satisfactory evidence of the presence of laying workers might be simmered down to this: More than one egg in a drone or queen-cell.

Cure for Laying Workers.

I think I have tried about all the different cures reported, and I am not sure that I would use any of them that contemplate the continuance of the colony, unless it be to get the bees to raise another queen. Taken early enough, the bees will respect a queen-cell; in fact, they are trying to raise a queen with their own useless brood; and if you give them a frame of good brood, you may have a queen raised. But they might not raise a very good queen thus, and in any case it will take some time, and it is better to give them a sealed cell as near hatching as possible. I have succeeded by giving them a young queen just hatched. But after the affair gets to be chronic, and the rounded cappings are seen on the worker-cells, more heroic treatment is needed.

On the whole, I am not sure but it is best in all cases to resort to the heroic treatment of breaking up the colony. Just distribute the contents of the hive, giving one or two frames, bees and all, to each of several other hives; and if you wish anything more continued on the same stand, just put another hive on the stand, having in that hive at least two frames of brood with adhering bees, and a sealed queen-cell. After you have experimented long enough at

trying to save a colony with laying workers, I feel pretty sure that you will agree with me that the most profitable thing is to break up the whole business, and that it will be cheaper to start a new colony than to continue the old.—C. C. MILLER, *in* "*Gleanings.*"

KEEPING RACES OF BEES PURE.

I see some write as though they thought two different races of bees could be kept within one mile of each other, and yet be no mixing from one to the other. If such writers are practising what they teach, they do not know what mixed bees are.

When the apiary of which I am part owner was first Italianised, the Italian bees were unknown about here. At that time there were within five miles of our apiary about as many hives of black or German bees as we had Italians; and by the second season about half of the hives of black bees within that distance showed trace of the Italian blood. A few colonies mixed seven miles off. The bees in some of these hives would be pretty fair hybrids, while in others about a fourth of the bees would show one and two bands, the others none at all. Up to this time no swarms had left our yard; and, according to the theory of nearly all the best authorities on bees (in which they surely are wrong), there could not have been any hybrid drones in the hives of black bees by the second season.

Mr. Editor, you say in your *A B C* that you have never noticed any particular difference in the progeny of an Italian queen mated to a black drone and that of a black queen mated to an Italian drone. There's something wrong. We have reared all of our queens from imported mothers from the beginning, and I have yet to see my first black bee from a daughter of an imported queen, no matter what kind of drone she mated with. Was it not drones from queens that were producing hybrid bees (for of such about half of our queens were at that time) that gave the black bees the small taint of Italian blood?—GEORGE W. CLEVELAND *in* "*Gleanings.*"

[The experience of an American bee-keeper, as detailed above, fully coincides with known facts here. Bees, to be kept pure, must be located seven or eight miles from those of other races.—EDS.]

Bee Shows to Come.

Oct. 11th to 14th.—Dairy Show at the Agricultural Hall, London. Sec., W. C. Young, 191 Fleet Street, London, E.C.

November 10th.—Autumn show of the Essex B. K. A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax, open to members of the Essex B.K.A. only. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. F. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A YOUNG BEE-KEEPER (Waltham Cross).—*Transferring Bees to Standard Frame Hives.* 1. The present is a bad time to transfer bees and combs to hives of a different type to the one they now occupy. March or April next would be a more suitable season for such work. 2. A ten-frame hive is about the best size for all purposes. 3. Our own preference is for the native or black bee. 4. Bees sent are hybrid Carniolans.

J. L. DENT (Darlington).—*Vicious Bees.*—Bees sent are hybrid Carniolans. It not seldom happens that the second cross of these bees turns out very vicious, especially if it is from a hybrid queen crossed by a black drone.

BEESWING.—*Preventing Swarming.*—We will forward your request to the author of the article on "The Science of Bee-keeping."

BOX (Feltham).—*Bees under Galvanised Iron Roof.*—Bees should do very well under such a covering as is proposed so long as the aspect is fairly good.

AMOS HOWELL (Glos.).—Bee-candy "ready for use" may be had from most appliance dealers.

REV. E. MALLINSON.—Any of the dealers whose names appear in our advertising pages will supply Dr. Pine's wire veils, as well as gloves for bee-work.

PUZZLED INQUIRER.—Comb is badly affected with foul brood.

M. POTTER.—The stock is affected with foul brood of a bad type and should be destroyed, as it is impossible to treat it at this time of year.

WILLIE (Inverness).—We do not venture to dispute the warranty given with sugar, but should much prefer to use No. 1 than No. 2 of the samples sent.

R. P. (Croydon).—Bee sent is an aged queen; she is small, but not abnormally so.

ROBERT HALL (Oxon).—Either of the materials sent will answer the purpose. It is placed directly over the top-bars, with nothing between.

MERCATOR (Preston).—The chemicals used in the manufacture of beet sugar render it injurious to bees when given as food, hence our objection to it.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

THE CHICAGO EXHIBITION.

In response to the appeal for donations of honey for the "British Exhibit" at the World's Fair next year, the following gentlemen have already promised to send honey in quantities varying from five to twenty-five (and in one case fifty) pounds in weight :—

Hon. and Rev. H. Bligh.	A. J. Carter.
	Elvey E. Smith.
Rev. R. M. Lamb.	T. Pritchard.
Rev. L. B. Birkett.	T. W. Cowan.
Captain Campbell.	Thos. Badcock.
Miss J. A. Davey.	W. W. Pryor.
Richard Dutton.	Jesse Garratt.
Jno. Palmer.	Albert Venn.
T. F. Leadbitter.	John Walton.
Wm. McNally.	E. J. Oaten.
Wm. Sword.	T. Giles.
Henry Wood.	W. Broughton Carr,

and "members of the Wootton-under-Edge B.K.A." In addition to the above, Mr. Meggy, hon. sec. of the Essex B.K.A., is also making an effort to obtain fifty pounds of honey from the members to form a county contribution to the exhibit.

The above, though a good start, is a long way short of the amount we hope to have sent in, and as the time is limited within which the Committee of the B.B.K.A. will have to decide on the amount of space required, it is hoped that some addition to the list of donors will be speedily made.

During the regrettable absence of the Secretary, Mr. Huckle, through severe illness, we will gladly deal with communications referring to the Chicago Exhibition, if sent to 17 King William Street, Strand, W.C.

Donations to the special fund for meeting the incidental expenses of the above exhibition are also much needed. Amounts already promised :—

	s.	*d.*
T. F. L., Brondesbury	10	0
Rev. R. M. Lamb	5	0
Rev. E. Davenport	5	0

TO OUR READERS.

In asking for the forbearance of correspondents whose letters may remain unattended to for a longer time than usual, we may be allowed to say that the trouble of transferring the business portion of the work of the *Bee Journal*, and our monthly, the *Record*, from Kings Langley to London, is greater than most persons would think. In a very short time, however, we hope to have everything in working order, and be able to deal promptly with all matters coming before us.

In the meantime, correspondents may themselves assist not a little in reducing labour here if they would kindly attend to the change in the instructions as to subscriptions and advertisements as notified on front page. Also by sending postal orders either blank or filling them up properly. Some are sent payable at specified post offices, and yet are *crossed*—the latter precaution stultifying the former. In all cases the name of office at which "postals" are made payable should be left blank.

It would save time and trouble if all communications relating to other than literary matters were written on separate paper and addressed "Manager" *British Bee Journal* or *Record*, as the case may be. Letters referring to advertisements should reach here not later than Tuesday morning for the *British Bee Journal* and the 21st of the month for the following issue of the *Record*.

THE SCIENCE OF BEE-KEEPING.

(*Continued from p.* 399.)

As already stated, whereas the bee places propolis with the centre legs direct to the pollen baskets, it, on the other hand, always carries the handful of prepared pollen between the compressors. We must therefore allow a certain amount of discriminating power to the insect. The little pellets of propolis which it makes by sticking small bits of the material together have a very ragged appearance, quite unlike the large and well-shaped pollen pellets.

While writing on this subject I have had the great advantage of dealing with a substance both visible and tangible. I allude to prepared or artificial pollen, and this has enabled me to present solid facts, which can be tested by any one desiring to do so. I shall now proceed to give a few directions for so doing.

Hints for Testing the System.

The best time to commence the study from nature of the formation of pollen pellets by the bee is in early spring, just before natural pollen-gathering begins, or when only a little can be got from the first flowers of the field, viz., the common daisy and the buttercup.

In an early fruit district it is advantageous to stimulate bees to early brood-rearing by presenting fresh Egyptian lentil flour, or fresh peameal (I prefer the former, because it can be dissolved more readily than peameal) on straw or shavings, in suitable receptacles in proximity of the hives, and at such an elevation as to afford easy observation. Avoid using straw skeps for the purpose, because some of the flour is liable to get wet and lodge between the folds of the straw, only to become a breeding-place for wax-moths. Use, therefore, a galvanised bucket, or some smooth receptacle that can be easily cleaned after use. Remember, also, to keep it turned towards the sun, because bees do not gather pollen in the shade. Place a handful of the flour among the shavings on a fine, warm day, when the bees are flying. A little of the artificial pollen should be sprinkled on in-going bees; after which they will take to the flour readily.

It is useful to begin the supply of artificial pollen a fortnight or so before the first flowers of spring appear. By so doing we create an inclination for pollen-gathering, and induce bees to search out the earliest flowers for a supply, which they would otherwise leave untouched. Left to themselves they would only commence work on the earliest fruit bloom. But being thus stimulated to raise an early batch of brood, and in consequence requiring nitrogenous food for nursing purposes, they will gather a large quantity of pollen from the daisy and the buttercup, as well as from furze bloom, and a few others flowering at the same time. We thus bring the bees into condition to work vigorously for honey on the earliest fruit blossoms, and surely this is worthy of consideration by those who keep their bees in fruit districts. Besides, it will tend to produce a much larger crop of fruit of those kinds that flower very early. So advantageous is it in the last-named direction that the writer has on this account to support with stakes the branches of his gooseberry-bushes to prevent them breaking down, even after severe picking of green fruit. The same remark applies to plums and cherries, and early-flowering apples. Currants, also, white, red, and black, bear an extra heavy crop.

The best time to choose for making observations are days when the weather is warm and bright, but with large clouds passing swiftly across the sky. As already remarked, bees prefer gathering pollen during sunshine, but one can observe their movements better in the shade; we must, therefore, choose such times as the sun is covered for a few moments by a passing cloud. As, however, passing clouds cannot always be secured, the head of the observer may be used for the purposes of shade while watching the bee at its work, giving it an alternation of sunshine and shade between each observation.

By far the best variety of bee for making these observations with are Carniolans; they take to the pollen substitute readily, and continue working on it until the natural supply comes in. Other varieties may be tried, but the writer has chiefly used these bees in making his observations.

The pure Carniolan bee is especially hardy, patient, and docile; it is the least affected by your presence, being fully occupied with its work. These lovely insects will lie on their side or back among the shavings while working on the artificial pollen; and at that time their movements are sufficiently slow to be easily discernible. They are also amongst the varieties having the whole of the pellet-forming apparatus strongly developed, this enabling them to form enormous-sized pellets.

The reader can, with the help of the key contained in the rules, define exactly each movement and its import; and, after making himself familiar with them, he will be able to read them readily, however rapidly the bee may perform its evolutions on the flowers and in the air during summer. He may also observe the several handfuls of prepared pollen which the bee places at the lower end between the compressors, each handful passing from the tongue to the fore feet, and from these to the centre ones, which latter place them between the compressors, never outside of them. He may likewise easily notice the bee loading the pollen store with dry pollen by means of its fore and centre legs, and removing the same again with the tongue immediately it takes wing, transferring it to the mouth, from which it afterwards proceeds to the compressors. After which, if the pellets are just at their commencement, we must look for the pollen coming through the passage and appearing at the lower part of the cavity in the tibia. This will usually be seen at or after the second or third time that the bee works the compressors.

Patient and careful observers may also at this

stage see, on the compressors being again operated, that the pollen has been pushed further up the cavity by the fresh supply from below, without the bee having touched the outside of the baskets with the centre legs at all; but this observation is difficult to make, because the bee, even at the commencement, when there is no necessity for it, mechanically passes the centre legs over the cavity, but always while these legs hold no prepared pollen. When, however, this particular operation has been once carefully watched, the reader will be quite unable to see things with respect to the formation of the pellets in the same light as formerly. An easy way of testing the truth of this assertion is to take up a bee while the pellets are in process of formation, and examine the passage in each hinder leg with a small sixpenny lens fixed in a tube, when prepared pollen will be found near the articulation; and when the pellets have attained a certain size, it will be found amongst the bent-down hairs that border the passage along the outside end of the metatarsus and auricle. By placing one of the hinder legs in the forceps, and mounting the latter on the stage of a microscope, so as to be able to revolve the leg horizontally under a low-power objective, the whole of the provisions described about it are brought into most prominent view. When the leg is placed on edge, with the open side of the passage upwards, a perfect side view or delineation of the plane arrangements is then very visible.

While the hive-bee appears to have the whole of the apparatus for forming the pellets with specially prepared pollen largely developed, and to be able thereby to form by far the largest pellets, compared to its individual size, yet the humble-bee appears also to employ prepared pollen for the pellets, and to form them somewhat in the same manner as the hive-bee. They perform their movements of transferring and compressing the pollen very rapidly, and commence gathering only at a time when natural pollen is plentiful; they, therefore, unlike the hive-bee, allow no opportunity for studying their movements minutely. Persons who readily understand the movements of the hive-bee will, however, have no difficulty in discerning those of the humble-bee, which are very similar. Some other varieties of bees living in families or small communities may also possibly use prepared pollen for the pellets, while the writer has observed that some solitary bees, as well as some other small insects which gather pollen on the same flowers as the honey-bee, collect it with the fore and centre legs only, forming their pellets with dry pollen, and transferring it by means of the centre legs direct to the outer part of the hinder ones, in the same manner as the hive-bee places propolis there. The dry pollen is retained there by a large number of special hairs, which takes the place of the pollen basket of the hive-bee.

Referring to the importance of sunshine to bees when gathering pollen, it may be said that, though they will also gather it at times when the sky is partly overcast, especially if the demands of the colony are great, yet by far the largest quantities are gathered in the sunshine; more especially is this the case with such flowers as grow close to the ground, like white clover.

It therefore follows that, with fine weather and a plentiful supply of pollen-producing flowers, bees will rear up the largest colonies in districts favoured with most sunshine.

The writer resides in an island which, along with its profusion of pollen-producing flowers, is one of the sunniest places in the United Kingdom, though not free from boisterous weather, and in some seasons he has colonies occupying more than two thousand square inches of comb, all filled with brood, the double surface of which contains over one hundred thousand larvæ in more or less advanced stages, denoting a laying power in their queens of about five thousand eggs per day. During the busiest hours of a fine day in summer some of these colonies have an in-and-out-going traffic of nearly two thousand bees per minute, which is shown by the fact that they will maintain an average of about twenty entering bees passing a space an inch deep along the entrance, which they travel in about one second, while the same number make their exit.

The amount of pollen gathered by such a stock of bees is hardly conceivable, and the amount of work performed by them in causing perfect fertilisation may be better imagined than calculated. The writer has observed that in sheltered localities bees will descend from more exposed places to such sheltered spots, and work there in large numbers, with the result that the fruit-trees in such places were found loaded with finely developed fruit, which held strongly to the branches, while more exposed situations presented a very marked contrast by the scarcity of fruit on the trees.

(To be continued.)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of goodfaith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

LANTERN ILLUSTRATION IN BEE LECTURES.

[1179.] In my short account of the tour of the Herefordshire Bee-van, which I gave when only a week's work had been done, I did not lay much stress upon the lantern method of imparting instruction. Now the tour is over for the season, twenty-eight villages having been visited,

I can speak with more certainty as to the success and relative importance of the final half-hour (or a little more) lecture, which was given about 9.15, as soon as the shades of evening began to fall, and which was fully illustrated by means of an oxyhydrogen lantern. Of course, the afternoon demonstrations, which were organized at most places, and the evening talks (at 7.30), illustrated with hives and practical appliances, did their share in the good work, but it was to "see the pictures" that most of the people came. And what a help a picture is in describing a fact, or method, or bit of actual work! You may describe in the clearest of language the differences between drone, queen, and worker-bees, but if you have an actual photograph of the three bees projected on the screen, how much better your audience will be able to recognise the appearance of the sexes! Or when you are talking about the method of hiving a swarm, an actual photograph of the bee-keeper holding with his left hand a skep, ready to catch the pendant living mass which has clustered conveniently on an apple-tree branch, which he is just about to shake down with his right, how vividly the method is driven home to the on-lookers! And in giving the method (not so easy to describe) how the swarm is to be got into a bar-frame hive, a photograph of the whole scene saves many words. The bee-keeper, with skep mouth downwards poised in his hands, having just shaken the mass of bees on to a white cloth spread out on the ground and leading up to the mouth of the hive; and then the second photograph of the scene a few minutes later—the bees spread out on the cloth running up into the mouth of the hive—all this explains matters clearly. And in speaking of the life-history of the bee, a photograph of a section of brood comb, showing plainly the egg, as laid by the queen in the base of the cell; the tiny, curled-up grub; the large, fat grub, completely filling the cell; the almost perfect bee, still white in colour—this visual illustration is worth much verbal matter.

In this way, using about five-and-twenty photographs, selected from my own series, an expert (Mr. Meadham) was, I am sure, able to do good work in the wide area over which he travelled.

I don't think I gave, in my previous account, practical details of the lantern arrangements, and as this is, I think, the first instance of out-door technical instruction with the aid of the lantern in summer evenings, they may be found useful.

The back end of the van falls down on hinges, to form a lecturing platform (used earlier in the evening). A muslin screen, fastened like a blind on a roller, is let down to fill up this opening (nearly six feet square). The lantern is placed in the open doorway in the front of the van, about ten feet six inches from the screen, and projects a five-feet picture. A Turnbull spirit jet is used, supplied by a forty-feet oxygen cylinder; a Beard's regulator being also used. Mr. Meadham had no experience in lantern work, but with my previous instruction and help at two or three lectures, he had no difficulty in mastering the use of the apparatus with very few hitches, his young son changing the slides while he lectured at the front.

I cannot too strongly insist upon the value of lantern illustration in lecturing upon any technical subject. In June, 1884, just after some of my slides on bee-keeping had been shown at the Health Exhibiton in London, I wrote to the *Bee Journal* on this point, and made a suggestion:—"I have often thought that the 'British' would be doing a good work if they got up a thoroughly representative set of lantern slides. I, for one, should be happy to lend the best of my negatives, and I think there must be several others who, like myself, are photographers as well as bee-keepers. Probably most of the County Associations would subscribe for a set, and then, with the help of a modern three-wick lantern and a portable screen, lectures would be much more frequent and interesting than they are at present."

But for eight years nothing came of this suggestion, and as I added to my own series of nature photographs (still far from being perfect or complete), and no others were obtainable, I have supplied some hundreds for lecturing purposes in all parts of the kingdom. One set I gave to the "British" for loan to its members, and I am glad to see, by the annual reports, that they have been in constant use.

Now, I am pleased to see an additional selection of bee-subjects are made available to the lecturer through the agency of Messrs. Newton, and the skill of Mr. Freshwater, and the matter seems to have been taken up much on the lines of the suggestion I threw out eight years ago.

I am sure I shall be forgiven the personal part of this explanation, but Mr. Grimshaw's review of the new series, on p. 344 of *B. J.* for September 8th, conveys the impression that direct photographs of the practical manipulations in bee-keeping are a new departure.—ALFRED WATKINS, *Hon. Sec. Herefordshire Bee-keepers' Association.*

[Mr. Grimshaw in no way implied that lantern slides on bee-subjects were a new thing, being perfectly well aware that photographs for lantern purposes have been taken by our correspondent, Mr. W. Dixon, of Leeds, and others. The particular slides referred to form one of the many "sets" prepared by Messrs. Newton, for the purposes of technical education, and, as in every case the firm have solicited the help of the highest known authorities in the preparation of the slides, the British Bee-keepers' Association was invited to name appropriate subjects, and assist in their preparation. This the Committee did, and Messrs. Newton would, of course, only include such slides in their list as were approved by the B. B. K. Association.—EDS.]

JUDGING OBSERVATORY HIVES.

[1180.] May I be allowed to ask that the subject of judging observatory hives be thoroughly ventilated through the medium of this paper? Seeing

that this class forms a most prominent part in the attractiveness of any exhibition, I most certainly think that it deserves more of the judge's attention than is generally bestowed upon it. I would ask, Is it fair to exhibitors, to whom, be it remembered, the exhibiting of a single exhibit in this section involves much labour, and frequently not a little expense and loss, for a judge to adjudicate in a class of, say, half-a-dozen hives in as many minutes?

Some of our best-known judges also hold widely different opinions as to the requirements of an observatory hive, and it is anything but satisfactory for the same article to be judged from an entirely different standpoint at two consecutive shows, and the question at issue is, What is an observatory hive, and how should it be judged? Of course I mean a hive stocked with bees and queen on one or more combs.

I feel sure that all interested in the matter will agree that the exhibitor's path would be much more clear if he knew what was really required. The subject is one in which I have taken considerable interest, and were it not for appearing personal, would give the disparity of ideas conveyed to me by some of our judges with regard to their method of judging in this important section; but I do hope the Committee of the British B.K.A. will take this subject in hand, and give exhibitors and judges alike the benefit of their opinion, as I feel confident many of our judges would feel relieved if some more fixed rule were adopted.

Of course I am fully alive to the fact that the wording of schedules cripples the judges in many cases, the vagaries of which give rise to many complaints, and this, too, is a matter worthy of consideration.

I trust it will not be thought that I am "blowing off steam," the accumulation of which has been brought about by defeat, as I have good reason as an exhibitor to be content, and am pleased to say I am.—CHARLES WOOTTON, *October 12th.*

NOTES BY THE WAY.

[1181.] The month of October is fast waning away, also the season for preparing our bees for the long winter rest, therefore I would say, Do not procrastinate, but do promptly the remaining jobs requisite for the health and well-being of the bees.

If feeding is required to eke out the stores in the hives, rather give an extra large cake of candy than feed syrup now. If roofs are not weatherproof, cover same with sheets of thin zinc cut large enough to turn and nail under the eaves of the roof. If winter passages have not been made, these can be very easily formed by laying three or four strips of half-inch square deal across the top of the frames, first bevelling off the ends of all strips, thus allowing the quilt to rest on the frames all round the strips; or, if a good-size cake of candy is given, and a long hole is cut in quilt, and the cake is laid over the hole, the bees will make their own passage over the frames without the aid of sticks. If any difficulty is experienced in making the quilt fit down around the sides and ends of the strips of wood forming passages, a warm flatiron may be used; this will make the propolised quilt adhere to the frames, and prevent any draught through the brood frames during the winter.

If wraps are thin or got wet and mouldy, make a chaff cushion for each hive. Unbleached or stained calico can generally be bought very cheap at the drapers; this will make the case to hold the chaff, which may be either wheat or oat; I myself prefer wheat chaff, as it does not get damp and mouldy so soon as oat chaff does. These cushions should be filled very loosely, so that the edges can be packed down round the edges and make all snug and warm.

I notice that a bee-keeper at Clonmel sued a neighbour for the worth of a swarm of bees, which the neighbour secured when the bees swarmed, and has won the case, the defendant having to pay 1*l.*, the value of the swarm.

I am very pleased to see illustrations of the new or improved appliances introduced during the season; it will make past volumes of *B. B. Journals* more interesting in the future, as bee-keepers will be able to compare and note the progress made from year to year. I trust our friend who is writing the interesting series of articles on "Pollen Gathering" will add a complete article on his method of preventing swarming, as I notice he refers to the matter incidentally in his article (last paragraph but one, p. 391); this would be of more practical value to the majority of bee-keepers than almost any other subject on which he could treat, and would relieve us from the long-hoped-for method of swarm-catching, and also the expense of swarm-catching appliances when practical tests have decided which is the best of its kind. I offer no opinion at present on pollen-gathering, but every bee-keeper who has ever given his bees flour of either wheat or peas must be cognisant that it must undergo some process of glutination by the bees, as the little, pearly, shiny lumps of pollen on the legs of the bees, as they leave the shavings on which the floor has been sprinkled, are very different from the dry flour.—W. WOODLEY, *World's End, Newbury.*

IN THE HUT.

"That as money makes money, his golden bees
Were the Five per Cents., or which you please."
HOOD.

[1182] It is not so this year with the "Hut" bees. I have got absolutely no surplus from flowers and clover, but from the six hives I took to the moors I certainly did take one section of *blackberry* honey, well so named, for it was most unattractive in appearance, though the flavour was right. Three of the hives had not a drop of honey, nor to all appearance a grain of pollen in them, so I took advantage of the highest authority and fed my bees on a Sunday. What they had been subsisting on (excepting the results of theft) goodness knows!

Bees are the creatures of habit to a great extent, for in one of the hives now being regularly fed, there is a regular stampede into the empty feeder immediately the slight jar, consequent upon the removal of the cover, is felt; there is no disposition to fly and no irritation of temper—they seem to come just as poultry or cattle come up at feeding-time—it is not sense, it is habit.

Reverting again to my heading, bee-keeping in my immediate district this year, following on 1891 and 1890, is again a woful failure, but I am pleased to read from a local paper that the year in the whole district is above the average, and as you are aware a lot of honey has been taken in some parts. We get no five per cent. profit on our capital; all we can do is to pluckily keep up the stream of enthusiasm, and determine to stick to it (for doesn't honey, reciprocally, stick to us?).

> We've had the stuff before, boys,
> And so we SHALL again!

Let's change the subject, and let me give your readers another of "X-Tractor's" "dodges." You wire your frames (shallow frames for example), fix in super foundation, and instead of messing with a block and a spur embedder just pass the frame (wires undermost) horizontally over the gas flame, not too near, just to warm it. The wax softens, and by its own weight embeds itself. Of course the edges of the cell foundation are not so sharp, but that's no matter. No more embedder for "X-Tractor."

In Nos. 1147 and 1160 two of your correspondents give experiences of insensibility resulting from handling bees, or rather manipulating hives, very suggestive of hypnotism or mesmerism. The cases are very serious to the gentlemen named, and should not be dismissed with a smile. (*Par parenthèse*, I wish we could get a better word from some of our crack philologists than "manipulating or handling bees"—what says Dr. Bartrum?) I am really of opinion that the cause of these objectionable symptoms was neither hypnotism, mesmerism, nor liver, but over-excitement, acting on a nervous temperament in conjunction with a temporary weak action of the heart. Your readers may remember that I have suffered in this direction when recovering from influenza and a relapse of it. If the gentlemen in question plead guilty in their own minds to considerable nervous agitation when manipulating on the hives in question, then I am right, and would recommend a stimulant before operating again, until they found themselves sufficiently strong physically to command nervous calmness.

"X-Tractor" has nothing but praise for the felt quilt, roofing felt of the thinnest make at 4*d.* per yard, thirty-two inches wide. But don't forget the thick woolly boiler felt he recommended some years ago, and which was found such a success, especially by our dear friend, "Amateur Expert." By the way, "A. E." seems to have given his old B. B. K. A. friends a good helping of cold shoulder. How he used to enjoy a *conversazione!* Well may I say with Milton:—

> "With thee conversing I forget all time."

We have now got into October, a month of gales, when we must finish up feeding, and make all snug and taut for the six months of winter, when your correspondents have time to write you their experiences whilst listening to

> "The mighty roar
> That rushes through the forest hoar
> When winds are piping loud."

I notice a suggestion for a standard bottle, an Association standard, and hope the day may soon come when it will be *un fait accompli.* It is disheartening to see marvellously fine honey handicapped by imperfect bottles. There are only two kinds of bottles which show off the honey to perfection, the plain screw-cap and the six-sided jar, to the mind of—X-TRACTOR.

SIX YEARS' HONEY HARVESTS.

[1183.] Last year you published some returns showing the honey harvests in different parts of the country. I send you my results for the six years to 1892, and you are welcome to publish them if you think they would be of interest to your readers. It is a complete return, and I should say that since 1887 I have never extracted an ounce of honey from the stock hives.

I believe that with proper and intelligent superintendence a labouring man would get a better return out of five stocks of bees than out of a rood allotment. The difficulty is to get them to see the necessity of giving proper attention at the proper time. Such returns as I now send you are of interest, as showing what can be done in different localities.—A. L. Y. MORLEY, *President Northants B. K. A.*

HONEY FOR SIX YEARS 1887–1892.

Year.	Hives—Spring Count.	lb. Sections Completed.	Run Honey Extracted.	Total Honey.	Wax by Gerster Extractor.
				lbs.	lbs. oz.
1887	1	50	14	64	— —
1888	3	22	—	22	— —
	(From 1 hive.)				
1889	3	138	26	164	— —
1890	5	105	—	105	— —
1891	5	45	135	180	5 12
1892	5	55	186	241	7 6

"STANDARD" HONEY BOTTLES.

[1184.] With reference to your correspondent's letter (1168, p. 389), I quite agree with "Hemlock Stone," and I hope something may soon be done. I have had this matter on my mind during the show season, and I am pleased that the ice is broken now.

I think if some definite size, shape, and quality

were decided on and made the "standard," it would prove a great boon to British bee-keepers, almost as much so as the "standard frame." I am quite sure it is not necessary to empty the contents of some of our *reputed one-pound* bottles to know that they contain far short of one pound of honey, for it is quite discernible to a practised eye, such as a judge is supposed to have, for instance.

I have had bottles containing no more than thirteen or fourteen ounces, and I have had tie-over jars containing as much as eighteen ounces, all termed by our dealers "One-pound honey bottles." The nearest to sixteen ounces is the happy medium. Of course I can well understand there would be some slight difficulty in getting it on a footing, but, acting on the old saying, "Where there's a will there's a way," if the B.B.K.A. would offer a prize for the best one-pound honey bottle, quality to be considered, all bottles to be delivered at their committee rooms, the B.B.K.A.'s Committee could then decide on the one best fitted for the future "standard;" or I have not the slightest doubt our dealers would gladly send samples for approval without the offer of prizes if notification was given in the pages of the *B. B. J.* I hope these show matters may be sifted, and thus cure a little of the dissatisfaction at some of our honey and bee shows.—H. Hill, *Thulston, Derby.*

THE VALUE OF BEES AS FERTILISERS.

[1185.] Having read Mr. Benton's article on the above subject (on p. 379 of *B. J.* for September 29th), I thought some experiments made by myself in a similar direction might be of interest to some of your many readers. For brevity, let me say that, whether trees or plants are spoken of, two as nearly alike as pos-ible were selected, especially in the matters of position, size, quantity of bloom, &c.; it must also be clearly understood that in our neighbourhood we have no lack of our pet fertilising agents, and on the plants or trees covered white gauze was used, not too fine to exclude either light, wind, or sun. The following is a list of plants and trees covered, so as to exclude bees, &c., and also of those left uncovered, to be visited by bees, &c., at their pleasure:—

One cherry-tree, covered; one blossom set, but failed to stone.

Three cherry-trees, uncovered, gave respectively—(*a*) too many to count; (*b*) 150 cherries; (*c*) eighty cherries, all of which hung on the trees till ripe.

One apple-tree, covered, yielded a single apple, which is still on the tree (October 1st).

One apple-tree, uncovered, set seven; two are on tree now. Whether the other five fell, or were knocked off, I am unable to say. The trees operated on were small ones, full of blossom: but apples with us this year set badly, on account of rain and cold winds probably.

A patch of *Limanthes Douglasii*, covered, gave about an average of one seed to each pod.

A similar patch uncovered produced an average of four seeds to the pod.

Seven plants of dwarf bean, covered, yielded fifty-two pods.

Seven plants of the same, uncovered, gave 135 pods. I regret having had to pull up these plants before they reached maturity, as the ground was required; else I intended to count the individual beans in each.

Three strawberry plants covered and three uncovered showed very little difference in the yield of fruit, though, if anything, the uncovered plants had more berries on them.

One plant of Camberwell kale, covered, gave about twelve or fifteen imperfect pods; while a similar plant uncovered was a perfect mass of well-filled pods.

I had intended experimenting further, but press of other work forbade me—at least for this year.—J. W. Blankley, *Denton, Lincolnshire, October 3rd*, 1892.

ARTIFICIAL HONEY.

[1186.] Your correspondent "J. B." (1176, p. 399) in last week's issue of *B. B. J.*, would be conferring a great obligation on bee-keepers in general if he openly, through the columns of your paper, named the party or parties who are guilty of such a contemptible piece of roguery as that described. Such a fraud ought to be exposed in the boldest type, and the offenders branded in such a manner that to even mention their name in society would be an abomination. Why should honest bee-keepers bring ridicule on themselves if they know of downright dishonesty being carried on by their neighbours on such a large scale as mentioned by "J. B.?" Our honey shows are held annually to promote and advance honey production; but if so-called honey can be made so beautifully, the sooner we set about teaching our honey judges how to detect the fraud, the better it will be for both the public and honest bee-keepers. I trust this matter, having got into your paper, will be probed to the bottom, and the guilty ones properly censured for such fraudulent practices, and, if honey exhibitors, debarred from ever staging their products on a show bench during their natural life.—J. D. McNally.

[However indignantly, and justly, our correspondent may resent such proceedings as are described in the letter referred to, he must bear in mind that public newspapers cannot publish names without rendering themselves actionable for libel, even if their statements are known to be perfectly true. A well-known truism in British law is, "The greater the truth, the greater the libel."—Eds.]

HONEY FOR CHICAGO.

[1187.] I shall be glad to contribute some honey collected by my "cockney" bees, kept within three and a quarter miles of Oxford Street. I think I shall be able to send about

twenty-five pounds, but I must extract from combs put aside for home use, and I am not quite sure of quality or quantity. I presume you will only want light honey, and not the darker autumn and spring honey; but I will send the best I can.

In spite of the peculiar weather, this has been a good year with me, and I have taken from my two hives 120 pounds, and in addition I have taken seven standard frames, heavily stored. These I removed on packing for the winter, leaving eight frames for each hive, with enough honey to go over the winter without autumn feeding. From six of these frames I shall extract. No honey-dew this year.

I hope you will give a full report in the *Journal* of the judgment in the Arundel bee case. I ventured to write a line to the judge, asking him to lay down the general principles of the law for the benefit of bee-keepers; but perhaps it was too late, or he may not take the trouble to do so, as it is hardly necessary for the case.—THOMAS F. LEADBITTER.

[The produce of your "cockney bees" will be very acceptable, and form quite a special exhibit, as representing "London" honey. We shall be very pleased to publish the "bee case" referred to so soon as particulars are available.—EDS.]

DRONES ALIVE IN OCTOBER.

[1188.] In the first week of this month I went to a hive to supersede an old queen and saw eight or ten drones in amongst the bees. I at once concluded—no queen! I caged a young queen on the combs for two days, and then went to release her. The bees did not seem very friendly, so I caged her again two more days; then I released her (not, however, before I had overhauled the combs and found the old queen all right on one of the frames. It appeared to me so very unusual to find drones at this time of year, I quite thought their queen was gone. I destroyed the old queen, and afterwards I released the other queen. Next day I saw several of the drones turned out, dead. A week later I saw the young queen all right, and only one drone left alive.—JOHN WALTON, *Leamington, October 7th.*

HOW TO PUT DOWN A FIGHT IN THE APIARY.

[1189.] 1. Don't spill syrup about, especially in autumn.

2. Do not keep hives open too long when examining.

3. Don't leave the honey-house door or window open when extracting has been going on, or leave the extractor uncovered, but cover up and make everything tidy each evening while the bees are at rest.

These and other precautions I have diligently observed, believing that "prevention is better than cure." But then, sooner or later, in the best-ordered apiary, there is a case of excitement—an attack upon a super forgotten, or a hive unable to beat back "robbers"—and you arrive on the spot to see super or hive nearly black with bees. Every moment the excitement increases, other hives are in danger, something must be done and done now, or in less than fifteen minutes you will wish you had never seen a bee or a beehive! I have it—happy thought—the garden syringe, a bucket of water, and a few drops of carbolic acid in it if you like. Stand back some eight or ten yards, for you are in the thickest of the fight now—it's death or victory to some of the stocks—let them have it right and left, don't spare them! Stand in a line for your hives. Now the rioters are beginning to quake! Another charge, pour in your grape-shot. Victory! The rebels are in retreat, their wounded (not dead) lay thick upon the field. Now, down with your gun (syringe), and remove the grievance—if a super, to a place of safety; if a hive, close the entrance securely with perforated zinc until bees have given up flight for the day. By this time a few of the most courageous will have recovered themselves for a second attack, but another half-bucket of water will put things straight in less time than it takes to write.—J. W. BLANKLEY, *Grantham, Lincs.*

P.S.—Will you, or some of your many readers, kindly tell me how to keep bees (dead) from becoming dry and hard for a few months?

[We know of no means of preserving bees as desired. They may be kept for a long time in spirits, but not "dry and hard."—EDS.]

THE SEASON IN MID-OXON.

[1190.] This season, on the whole, has been a fairly good one. A late spring was followed by a warm and seasonable June, but July was cold and showery, and the bees did nothing. My thirty hives produced 1495 pounds of honey, or an average of nearly fifty pounds per hive of chiefly extracted honey, as only seven of the thirty hives were worked for honey-comb.

I was only troubled with three swarms, two of which were caused by mismanagement in inadvertently shutting up the queens in the top chambers, which caused the bees to raise other queens below, and swarm accordingly. My other swarm was from a box hive, which I have since found, on abolishing it altogether, to contain an usual quantity of drone comb. My hives, though treated and stimulated in spring exactly alike, did not all produce the same amount of honey each, the highest yield being seventy-three pounds, and the lowest twelve pounds. This I cannot account for. I have two colonies in one hive, with perforated wood between, on ten pounds each of stores, and I have three lots of driven bees in another hive on fifteen pounds each of stores as an experiment on wintering.—APIARIST, *Fairspeir, Ascott, October 10th*, 1892.

BEES IN CO. KILKENNY.

[1191.] Enclosed are a few notes, if you wish to give them a place in the *Journal*, on bee-keeping in this district. I am a bee-keeper for the past five years, commencing with one small skep. I have been somewhat successful, when compared with my immediate brethren in the craft, though battling with foul brood for the past three years, and losing several stocks through it. I strive, however, to keep up my number between five and ten. I buy some, while sometimes late swarms and casts are given to me by friends. I commenced this spring with ten stocks; by May, two were gone (foul brood, &c.). I go into winter quarters this time with fifteen stocks, including swarms, all apparently in good condition. The season in this locality has been very bad; little honey secured, and bees, in some instances, have died out a month ago. My own have done fairly well, giving an average of forty pounds each from seven hives, but nothing was got from hives that swarmed, or from swarms either, no matter how their hives were furnished. I was surprised, some time after removing supers, &c., on opening a hive for the purpose, as I thought, of getting a frame or two for the extractor, to find that the bees were actually starving. I sent by first post to London for two hundredweight of No. 7 cane sugar, and commenced feeding. Perhaps some good may come out of the scarcity, for I have fed both stocks and swarms with medicated syrup up to about twenty-three pounds each; so with these stores, plenty of bees, and some naphthaline in each hive, I hope to see very few foul-broody cells next spring.

I had some monster hives during the summer, having to give some stocks three, and others four boxes of sections to keep them from clustering outside, with the result that I had a lot of unfinished sections when the season broke up early in July. The frame hive has not been generally adopted in this district. I got first and second prize for six best sections at local show here last week, but the competition was not very keen. My exhibits, both for competition and not for competition, were much admired.

As for the skeppists, they have got no honey at all worth mentioning this season. One told me he smothered eight stocks, and only got sixteen pounds from the lot. Instances like this—of which I could mention many—will give you, and bee-keepers generally, some idea of how the poor bees are rewarded for their labour by bee-keepers of the old school. A number of farmers and cottagers keep bees, and sell their honey (when they get any) to a Waterford merchant for 2½*d.* per pound, the said merchant giving no encouragement to his customers to go in for new system; but, on the contrary, he tells them it would not pay, and to hold on to the old method. In conclusion, all the knowledge I have gained is from the *B. B. J.*, *Modern Bee-keeping*, and practical experience. To the *B.B.J.* especially I am indebted.—M. K., *co. Kilkenny.*

NAPHTHALINE FOR MOTHS, ETC.

[1192.] There are several very satisfactory little articles in *B.B.J.* for October 6th (p. 390) about naphthaline, &c., from which I conclude I ought to have some to put into my hives when making up for the winter. My special pest is the *woodlice*, but moths also; they are pretty little silvery-looking moths, very active and small. Are these the *honey*-moth, or the *wax*-moth, or just the ordinary clothes-moth attracted by the woollen coverings, or bits of dust, &c., in crevices? [Probably the wax-moth.—EDS.] But woodlice are my special trial, and if, as this article leads me to believe, they could be banished by putting naphthaline between the quilts, I should like to have some.

Perhaps some day you might put in an illustration or description of the different moths which attack hives. I have not seen one. I have no foul brood, nor fear of it.

My bees filled but few sections, and provided very little in their frames, but the hives are positively *crammed* with bees, and I can manage I think to feed them comfortably all the winter without risk of starving by cold, with section cases filled with candy, and turned down through hole in quilt.—E. F. T., *Cashel, co. Tipperary.*

Queries and Replies.

[664.] *Foul Brood.*—I send a comb which, after reading Cheshire's description of the disease, I believe contains foul brood. I will first state what I wish to know, and then give a short description of the general facts of the case, if you think necessary to read them. 1. Is this a case of foul brood? 2. How do you advise me to deal with it if it is—should I burn combs and bees or not? 3. Is Naphthol Beta a better cure in the food than phenol? The stock affected is a last year's swarm, and progressed well during this summer, though they gathered little owing to the wet season. In August I decided to obtain two young queens in place of old ones, intending to place one in my best hive, in hopes of getting honey off the heather, and one in my worst, the best being the one from which I now send you the comb. I obtained the queens (first grade) from a dealer, and do not blame the queens for the disease. I introduced on Saturday, the 28th of August, and found in this hive eight of the nine combs with brood in them, and honey being stored and sealed in a super. There were several queen-cells in various stages, besides unsealed brood and eggs; all seemed doing well. The queen I took out appeared to be a young one, and I intended to introduce her to another hive, but she met with an accident during the night, and was killed before I made up my mind where to put her. I examined the stock from which she was removed and the new queen introduced the following week, and found more eggs were laid, and all appeared right. On the 24th of September, on looking in the hive, I found

nearly all the unsealed grubs turning yellow, and on pricking one of them it gave out matter. I also found the sealed brood was the same, but, of course, there was not a great number then of either. I noticed some eggs laid, and on the following Saturday, October 1st, I again inspected, and finding no living grubs I wrote to the dealer from whom I had the queens and asked his advice; briefly, he advised me to write to you, sending a sample of the comb, if there was any question about it. I consider the comb I send you a fair sample of the rest, but during the week that has passed the decayed grubs appear to have gone. I gave a small dose of food medicated with phenol, and am now feeding with Naphthol Beta. I can see no reason why this stock should be affected and others not, for I have seen no yellow grubs in my other hives, owing, maybe, to the fact that they have had no brood in some since August last, a fact which I attribute simply to the weather. I cannot, however, tell whether they are or are not affected. If you advise me to keep the bees, I can take the queen out, if you think well, and introduce one from a weak swarm, and give clean combs—burning the present combs—and then feed up with food containing Naphthol Beta. I have heard of cases of foul brood in the neighbourhood. The one thing against feeding is that the season is so far advanced that it is rather difficult to get the food taken readily. Off nine hives I have obtained no honey this year. I have had two swarms and united one lot, so have at present ten hives.—B. W.

Reply.—1. Comb sent is affected with foul brood. 2. The small number of cells (about ten) containing dead larvæ in so large a surface as the extra-sized comb sent presents makes it a good case for attempting a cure. 3. Naphthol Beta is far preferable to phenol in such a case, if for no other reason than that it is both odourless and almost tasteless. If four or five combs can be selected free from cells containing dead brood, remove the others and winter the bees on broodless ones. Prepare a dozen pounds of good syrup medicated with Naphthol Beta, and give it the bees *warm* in a rapid feeder on the first mild evening. This, with a good-sized cake of soft candy, should carry them over the winter. When packing away for winter, put the usual quantity of naphthaline on the floor-board and hope for the best. About May next an examination of the brood will show what effect the remedies have had, and your subsequent action must be shaped accordingly.

[665.] *Burnt Sugar for Bee-Food.*—I should be glad if you would let me know whether you think burnt sugar is unsuitable for bees? In making candy, I have had the misfortune to burn the sugar (which is cane sugar), so that the cakes of candy are of a dark colour, and are not properly crystallised. As I was dealing with rather a large quantity of sugar, I am rather unwilling to throw it away, and therefore should be glad if you would give me your opinion whether it ought to be discarded, and fresh candy made?—H. C., *Cornwall, October 14th.*

Reply.—Burnt sugar is entirely unfit for bee-food. As an alternative to throwing the candy away, it might be gradually used up when making syrup by melting a pound of it in each ten pounds of fresh sugar.

[666.] *Extracting Surplus Syrup.*—1. I have lately given syrup with "rapid feeder" to some of my stocks. How soon after doing so is it best to extract surplus syrup, also how late may it be done? How long would bees require to seal it? 2. Is it necessary or wise to give artificial pollen in the autumn to stocks having no brood?—C. H. S., *Gravesend.*

Reply.—1. We should not advise extracting all unsealed syrup at this late season. To do so would, in many cases, leave very little behind. 2. No; give pea-flour candy in early spring where there is little natural pollen in the hive.

Bee Shows to Come.

November 10th.—Autumn show of the Essex B.K.A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax, open to members of the Essex B.K.A. only. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. F. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

G. T. (Enfield).—*Races of Bees.*—Bees sent are, so far as we can make out, fairly well-marked Carniolans. The box conveying them has left the bees covered with white dust, making identification difficult.

B. J. Bovington (Worcester).—*Late Autumn Feeding.*—No doubt the bees will be all right in a day or two. There is no disease about them so far as can be gathered from inspection. It is very late to feed, but if food is given warm it should have no ill effects on the health of the bees.

*** Report of the "Dairy Show" will appear next week.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

Weather.—Beyond recording the fact that the marked improvement in the weather since our last "Hints" appeared will permit of the necessary "tidying-up" about hives being got through in comfort, we may say there is now a considerably lessened interest for readers in all that concerns weather portents. Bees well prepared for winter with plenty of food, in good sound hives with firm stands, covered by roofs irremovable by wind, "blow it never so hard," are as safe from the effects of what is going on outside as is the bee-keeper himself when listening to the howling of the storm without while snugly ensconced between the warm blankets of his comfortable bed. We may, therefore, for a few months to come leave out the weather reference usually heading this column, and ventilate instead such matters of immediate interest as come to the front from time to time.

Criticising Judges' Awards. — Among the subjects referred to as coming to the front, we are sorry to notice a disposition on the part of exhibitors to criticise the awards made by judges at shows. Now, if there is one individual in the world who is by the very nature of the case totally unfitted to give a reliable or unprejudiced opinion on "awards" it is an exhibitor—especially a disappointed one. We know of an instance in which a gentleman—a liberal and ardent supporter of a Bee Association—who in an unfortunate moment, as it afterwards turned out, resolved to become an exhibitor, and in this capacity staged a super of honey gathered by his own bees. This super every one *but* the exhibitor thought very little of, but so indignant was the latter at not receiving a prize that he has been "a stranger" to Bee Associations ever since!

When our correspondent, Mr. Wootton (1180, p. 408) asks "that the subject of judging observatory hives at shows be thoroughly ventilated," he obviously ventures on delicate ground, for it cannot be supposed that the "subject" will be confined to the one item of the judges' duties in which alone he is concerned. Judging generally would come under review, and seeing that the persons most concerned—*i.e.*, judges themselves—cannot well take part in criticising their own action, we should only have one side of the question, and that a manifestly prejudiced one.

The point is to secure judges possessing the necessary experience. This the B.B.K.A. do to the best of their knowledge, and it is a source of satisfaction that the awards are, as a rule, loyally accepted as right by exhibitors themselves. The chief reason, however, why discussion on awards is to be deprecated is that if confidence in the competency of judges, or in their desire to do perfect justice to the exhibits coming before them, is destroyed or even diminished, serious harm will be done to bee-exhibitions generally. On the other hand, there is no reason why prize schedules should not be subject to revision or amendment whenever needed, and we are perfectly sure that the committee of the B.B.K.A. are never heedless of useful suggestions in this direction.

Several letters on "The Colour of Honey" have also recently appeared in our columns, which serve to illustrate the tendency of such discussions to question the justice or otherwise of awards, and to prove only, as

we think, how completely opinions differ on certain points—as they always have done, and always will do in this world—and how impossible it is to please every one. A well-known judge once said, "The only unpleasant thing about judging is that one cannot give a prize to every one." And he was right, for we can bear personal testimony to the pang it costs to pass over unnoticed exhibits well meriting prizes had such been there for awarding.

Exhibiting Bees with Foul-broody Combs at Shows.—Such is the somewhat lengthy title given to a communication just now sent for publication in our columns, which serves to show the lack of reflection sometimes displayed by correspondents in supposing that we could, or would, publish disparaging assertions of a personal character without proof of any kind beyond the bare statements made. No one has a right to say offhand—when referring to the combs of an observatory hive—"Notwithstanding that I again and again declared it to be affected, the judges declared it was not." It is not necessary here for us to inquire whether or not the writer has "proved his case," but we may say that the power to peremptorily "order an exhibit out of the show-ground" as asked for by our correspondent, might lead to serious trouble if acted upon. The following exactly similar case—which happened this year—the facts of which we can vouch for, will serve to illustrate our point:—An observatory hive was staged at a certain show, and one of the judges who officiated on the occasion declared the comb to be badly affected with foul brood. In this view he was supported very positively by the expert engaged at the same show, the said expert being one of the most experienced and reliable men in the profession. The other judge differed from his colleague and the expert, basing his opinion on an exceptionally large experience of foul-broody combs. To settle the point, a piece of the comb was cut out before the hive left the show-ground, and a subsequent most careful examination under the microscope by able hands failed to discover even a trace of *Bacillus alvei* in the cells. Need anything further be said to convince even our correspondent himself of the absurdity of such a proposition as that in the letter before us, wherein he says:—"When judges, first-class experts, and men who write to the bee-papers on the matter every day do not know foul brood without a microscope, it is time something was done to educate these people so that they can tell it at once." We do not hold ourselves responsible for the offensive and personal character of the above remarks, and only insert them as written in order to be accurate in our quotations.

Telling it at once, in the manner implied by our correspondent, must mean recognising the disease by examining the comb through the glass sides of an observatory hive. This, we may be allowed to say very positively, cannot be done with absolute certainty by any one; no more than it can be explained why the cells of some foul-broody combs look so decidedly unsuspicious until their contents are examined. In view of these facts, we trust our correspondent will not, on reflection, be ungrateful to us for dealing with his communication in the manner we have, rather than publish it, as he intended, with name and locality, and all the other objectionable features it contains fully set forth.

To sum up the matter—and as the correspondent just referred to, and Mr. Wootton in a less degree, lay stress upon the responsibility incurred by the British Bee-keepers' Association in their appointment of judges—it may be safely said that the B. B. K. A. are most careful in selecting only competent men to undertake such duties. None the less confidently may it be asserted that the gentlemen chosen perform their not seldom thankless task with perfect impartially and fairness.

Naphthaline and its Uses.—We believe greatly in the efficacy and usefulness of naphthaline as a preventive of the spread of foul brood to healthy hives, as well as in the throughness with which it keeps away moths from clothing and articles of household use. There is also good reason for crediting it with effectually banishing various pests from about beehives, if the testimony of correspondents is to be relied on; but we were—shall we say *uncomfortably?*—pleased the other day on being applied to for a supply by a gentleman who quite confidentially whispered in our ear as follows:—"My wife, after awful trouble in trying remedies, got some of your napthaline some months ago, and"—here his voice lowered—"*we haven't seen a blessed flea in the house since!*" We should think that, after such testimony, it would be difficult to sing further the praises of naphthaline!

THE SCIENCE OF BEE-KEEPING.

By Peter Bois, Jersey.

(*Continued from p.* 407.)

The Honey-Bee: its Work as a Cross-fertilising Agent.

I am not about to give a full detailed classification of plants, with remarks as to the manner in which they are visited by the bee for pollen, because that would mean a very extended work. I shall, therefore, simply close what I hope will prove a useful essay, alike to the botanist, the horticulturist, and the bee-keeper, by a few observations on the manner in which the bee works on certain flowers, and on the apparent adaptation of some of these to the insect as their cross-fertilising agent. I shall give only the result of personal observations made during the last four years, since which time, so far as the writer knows, he has been in sole possession of the theory herein made public on the formation of pollen pellets by the bee. It should therefore possess a peculiar interest for readers of the *British Bee Journal* as being sufficient to show that the system enables an observer to follow the movements of the bee, and to understand their import while the insect is at work on the flowers.

Bees use the tongue exclusively in gathering pollen from some flowers that do not offer facilities for using any of its auxiliaries for that purpose. In the early stages of development of the floral world, as well as in those of the bee itself, in ages long ago passed away, the tongue may have been the sole pollen-gathering organ; but, in course of time, the jaws, then the fore and the centre legs, have become adapted to assist the tongue in its work.

The lilac affords an example of a flower in which the bee is obliged to use its tongue exclusively in gathering pollen, because the two anthers, situated just above the stigma, are a little way down the tube-like portion of that flower. The bee visits the younger flowers for nectar before the pollen is developed in their anthers, when the tongue touches the stigma at the bottom of the corolla in order to reach the nectar, and such flowers become thereby cross-fertilised by the tongue of the bee with pollen from the anthers of other blooms more fully developed.

In working on the blossom of the gooseberry, the bee removes the pollen from the five stamens with the fore feet, and that while the tongue is occupied removing the nectar from the bottom of the corolla; the action of the fore feet in removing the pollen in this case is very rapid, and though quite discernible, it is effected almost in the twinkling of an eye. The pollen is gathered from the inner part of the anthers by an outward action of the legs, in performing which they are first thrust inwards, and in so doing the points of the fore feet touch the stigmas of the pistil, these being a little below the anthers, and the stigmas receive thereby pollen from flowers previously visited.

The gooseberry-bush is exceedingly kind and provident to its little friend, the bee; it is among the first to put its pollen and nectar at the disposal of that indispensable insect, and not only are the flowers placed in shelter under the branches, but the branches themselves put out strong and steady leaves to serve as a resting-place, on which the bee plants its two hind legs, while with the two centre ones it takes hold of the corolla of the flower during the moment of time that the tongue and fore legs are occupied at their work. The leaves themselves have stout hairs on their under side, and the bee knows it; she hooks herself in shelter to one of these when her strength fails her, as it does occasionally at this very early time of the year, and, while it seems that the tip of her leg is barely touching the leaf, she snatches for a moment, as it were, a last fraction of the long winter's rest! The flowers themselves are short and sturdy, and while the corolla is edged with barriers against the depredations of unwelcome insects, the tips of the petals are all carefully turned back outwards, to give a firm hold to the centre legs of its chosen fertilising agent, and the bee finds the flower itself a firm resting-place when a leaf is not ready at hand for that purpose.

The white, red, and black currants flower a little later, and by that time the first young bees from the hives have gained sufficient strength for flight, the conditions, inside as well as outside of the hives, being also considerably improved. The currant bloom consists also of small and strong flowers that look downwards, somewhat after the manner of the gooseberry, and their wide, curved petals give the bee a sure hold and special resting-place; they grow in large numbers, forming racemes, or bunches, instead of single flowers, and this is another advantage, for, as spring advances, daylight lengthens, giving more time for each day's labour. Bees also come out in greater numbers, and are stronger and more vigorous. The bee works on the currants in exactly the same manner as on the gooseberry. Unlike the latter, however, the currant does not put forth its leaves as a resting-place for the bee, but it unfolds its verdant foliage in profusion later on, to hide, as it were, its luscious fruit from the depredations of birds, and to shield it from the fierce rays of the sun.

The morella cherry has a large number of stamens (no less than thirty in each flower), and is visited principally for pollen, of which it yields a large quantity. The bee only plunges down in the younger flowers for nectar, when these are cross-fertilised by the tongue with pollen gathered from flowers more developed. While labouring on the cherry the antennæ of the bee are busy at work as feelers. Either of them no sooner touches a stamen in front of it than the corresponding fore leg brings it between the mandibles, which collect the pollen. The centre legs, along with the hinder ones, are employed for locomotion and for holding the bee on the flower. As the pollen of the cherry is not

deposited under the thorax, like that of other flowers referred to, the bee works on the wing but an instant of time as it flies from one flower to another.

In the case of apple blossom, the pollen, after being loosened by the mandibles, is removed by the fore legs and transferred to the auxiliary store under the thorax. The stigmas, which project beyond the anthers, are rubbed by the thorax, and thus cross-fertilisation results by the pollen of the auxiliary store, from blooms previously visited.

All bees do not gather pollen from white (or Dutch) clover. Those that do so collect it with the fore feet, immediately after sucking the nectar. In collecting they pull the floret open, transferring the pollen to the auxiliary *depôt* under the thorax, whence it is taken from time to time by the tongue while the bee is on the wing. The fore feet, in removing the pollen from the anthers, deposit some on the stigma from flowers previously visited. Such bees as are working, but not collecting pollen from this particular source, are mostly the older honey-gatherers, which are employed in very large numbers on the white clover in bright, dry weather, during the time of its blooming.

(*To be concluded next week.*)

HONEY AT THE DAIRY SHOW.

The twelfth annual show of the Dairy Farmers' Association took place at the Agricultural Hall, London, on October 11th and three following days. Owing to the poor season in the north, the entries for honey were fewer than last year. There was, however, no deterioration in the quality of the honey staged, and, as the honey department was more favourably placed with regard to position and light, the display was a very creditable one. The class for collections of honey not exceeding 100 pounds in weight included a neat and well-arranged collection of exhibits, and it was to be regretted that the very highly commended one could not have had a third prize awarded to it, owing to the number of the prizes in the class being reduced through insufficient entries. In the run-honey class there was again a keen competition; not so large an entry as last year, but of excellent quality, as may be gathered from the number of lots receiving commends over and above those to which prizes could be awarded. The class for sections, however, was a decided improvement on the exhibits staged in 1891, several first rate lots being shown. Granulated honey only produced seventeen entries, and we are bound to say the quality, though fairly good in appearance, was not nearly so fine in flavour as we have seen at some earlier shows this year.

Seeing that this important annual exhibition is held in London at a date when exhibitors have tested the quality of their produce on show-tables earlier on in the season, we have always thought that the "Dairy Show" offered a capital opportunity for winning exhibits meeting in a sort of final competition, while the very large number of persons attending this important annual exhibition makes the occasion an exceptionally favourable one for such a meeting. We therefore invite attention of honey producers as well as of appliance manufacturers to it, and hope to see an entry next year such as will do credit to the craft.

The duties of judging were again entrusted to Messrs. J. M. Hooker and W. Broughton Carr, who made the following awards:—

Best twelve 1-lb. sections.—1st, W. Woodley; 2nd, Cathedral Dairy Co.; 3rd, L. Inwood; 4th, John Walton, Weston, Leamington. Highly commended: Rev. R. M. Lamb; Cathedral Dairy Co.; H. Wood, Lichfield; and E. C. R. White, Salisbury. Commended: A. Hounsom, Bosham, Chichester.

Best twelve 1-lb. jars extracted honey.—1st, John Carver, Wellington, Salop; 2nd, W. H. Woods, St. Ives, Hunts; 3rd, S. W. Filtness, Swindon; 4th, L. Inwood, Uffington. Very highly commended: W. Woodley, Newbury; Rev. R. M. Lamb, Burton Pidsea; Reynolds, St. Neots; and Cathedral Dairy Co., Exeter.

Best twelve 1-lb. jars granulated honey.—1st and 2nd, Cathedral Dairy Co.; 3rd, A. Jackson, Kingsland, Hereford.

Best exhibit of honey in any form not exceeding 100 lbs. in weight.—1st, W. Woodley; 2nd, John Walton. Very highly commended, Levi Inwood. Highly commended, W. H. Woods.

AYRSHIRE AGRICULTURAL ASSOCIATION.

Annual Show at Kilmarnock.

The Annual Show of the above Association took place at Kilmarnock on October 21st.

The Directors wisely added honey this year, as a trial, in connexion with the fruit, tomato, and vegetable section. Notwithstanding the bad season, the results and the interest taken in the section showed it was a step in the right direction, and they may expect a very large addition to this department next season.

The extracted honey was particularly fine. There were in all seven classes, numbered 19 to 26. The total entries numbered just one hundred.

As may be imagined, so many entries coming from the south of England to the north of Scotland, and many from Ireland, made the position of the Judge (Colonel Bennett) a difficult and onerous one. The awards, however, seem to have given entire satisfaction to the general body of exhibitors.

Such exhibitions go a long way in improving the position of those engaged in the culture of bees, and will give a stimulus to all who are working only in a half-hearted manner as bee-keepers. Nothing surprised the Stewards more than the various modes of packing adopted, some, especially from a distance, being simple and light, and not a cell broken; while others

were cumbrous and, notwithstanding attempts at precautions, came to grief on the road.

PRIZE LIST.

Four 1-lb. jars run or extracted honey.—1st, H. W. Seymour, Henley-on-Thames; 2nd, J. Baillie, Kilmaurs; 3rd, R. Cameron, Stewarton; h. c., Rev. R. M. Lamb, Burton Pidsea, Hull; W. J. Anderson, Airds, Caledon. Honey design.—J. Kerr, Dargavel, Dumfries. Super honey, non-sectional.—1st, J. Baillie; 2nd, J. Walker, Kilmaurs. Six 1-lb. sections.—1st, J. M'Donald, Lynchat, Kingussie; 2nd, S. Roebuck, Dumfries. Six 2-lb. sections.—1st, J. Kerr; 2nd, S. Roebuck.

Special Prizes.—Two 1-lb. screw-top jars extracted honey other than heather.—1st, and h. c., J. D. M'Nally, Laurencetown, Co. Down; 2nd, A. Montgomery, Townend, Kilmaurs; 3rd, Rev. R. M. Lamb. Two 1-lb. sections, shown in section holders.—1st, J. M'Creath, York Place Nursery, Dumfries; 2nd, J. Kerr; 3rd, W. W. Pryor, Welwyn, Herts.

The honey design shown by Mr. J. Kerr was an exceptionally pretty exhibit. It embraced an anchor and cross with a heart in the centre, showing great artistic skill and thorough knowledge on the part of the exhibitor in making bees work on any given foundation.

The staging and unpacking of the exhibits were under the care of Mr. M'Murtrie, the Secretary, who found the work new, but so interesting that exhibitors may rely upon a good friend at future shows.—*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"THE SCIENCE OF BEE-KEEPING:" CRITICAL.

[1193.] I noticed with some considerable interest the above "bold heading" on p. 390, and thought to myself "Here *is* a treat in store for us; we are going to have the whole knowledge and practice of bee-keeping laid out before us week by week, presumably by a master hand, judging by the ambitious title!" But I do not get far into the first instalment before I come to a deadlock when I am told, in the third paragraph, that, "although volume after volume has been published on the honey-bee, we still admire the bee in the field with only the limited knowledge to guide us possessed by our forefathers." Thus all that has been written by the 138 out of the 172 authors quoted by Mr. Cowan in his work goes for nothing. These 138 we may call contemporaries, as their works have been published since 1845. I do not give much for the science of bee-keeping if the work done during the last half-century is all to no purpose until suddenly a burning and shining light appears on the horizon, and by his own showing, with an experience of "several seasons," is now "enabled to clear away doubts and uncertainties." Your anonymous author proceeds, with a hardihood truly enviable, to tell us that, "before initiating" (save the mark) "the reader into facts which have so far remained unknown," it becomes necessary to "point out incorrectness of prevailing ideas opposed to actual facts, and draw attention to false ideas;" ye the hope she will not lessen the real value of those popular works he quotes. I do not think he will. Nay, when I glance again at the work I thought to criticise, I find it so bristling with what I think is wrong that I am inclined to put down my pen and "let the thing slide," if I may be pardoned this bit of expressive slang.

At the beginning of the eighth paragraph we are told, "A common belief prevails, particularly among beginners in bee-keeping, that 'bees do nothing invariably.'" Now, the facts are quite the opposite. This axiom is part of the belief of the experienced bee-keeper—the longer he lives the more he finds its truth; whilst it is only the young hand who believes bees do everything invariably. The next sentence is equally wrong in its reasoning; it is false logic, and is opposed to fact. Thus, "If we admit the possession of intelligence in the honey-bee at all, we must allow that it has an object in each of its actions, and that it is actuated at all times by *cause* and *purpose*." This is at once to endow all animals possessing intelligence with reason. How absurd, when we reflect on the many purely instinctive actions on the part of the bee! Proceeding to the next sentence, we find that the writer, having charge of 100 colonies, prevents the whole of them from swarming, and no hive has the slightest inclination or desire to do so. He, at any rate, has found a method of uprooting one of their strongest instincts, and do this thing invariably—keep off swarming. But perhaps the bees have *reasoned* that in such hands it would be useless and a vain waste of time. Another popular error he tells us is, that bees roll themselves in pollen, and come back to the hive white as a miller. This is not a popular error at all; people do *not commonly think* this, but we *do know* bees will roll themselves in *artificial* pollen, and come back white as a miller, and we *do know* that bees come in from the wild mustard and other things as yellow as a new guinea. The author of the article says "the bee does exactly the reverse;" thus, strange to say, he at once admits the fact he contradicts.—R. A. H. GRIMSHAW.

(*To be continued.*)

POLLEN-GATHERING.

[1194.] The very interesting articles now appearing on pollen-gathering bring to my mind an observation which I made several years ago, but the significance of which seems only now to become apparent. Soon after beginning bee-keeping, I spread pea-flour in spring on the very entrance to the hive, and watched the bees gather it; and what struck me as remarkable, and, indeed, unaccountable then, was that the bees generally took flight after gathering and before entering the hive. Whether they brought the flour back in pellets, and in the pollen basket, I do not remember noticing. The first rule given by your writer states that "all pollen gathered by the honey-bee receives an admixture of saliva outside the hive" (see Rule 19). It would be interesting to ascertain if the flour used for quieting, uniting, &c., and afterwards seen stored up in the hive, is insalivated or deposited in pellets, and whether, if insalivated, it is carried out of the hive and brought back again. This observation would not be easy to make, as dry pollen is carried under the thorax or taken in the mouth, and the character of the stored flour may require microscopical or chemical examination.—S. J., *Bristol, October 15th.*

A STANDARD HONEY-BOTTLE.

[1195.] Several of your correspondents seem to desire that a standard should be fixed for a honey-bottle, and in each case, I believe, the argument is, that the ordinary fancy bottles only hold about fourteen ounces, and that this is not fair to the ordinary public.

I write to protest against anything of the kind being done, and should have written before had I not thought that the matter had dropped.

There can be no greater admirer of high principles than myself, but this I consider is pushing them to the verge of eccentricity. Do these advocates for full measure consider themselves defrauded when they purchase a quart bottle of wine and find it does not contain a quart?

I am sure the sensible British public are fully aware that, whether they buy honey, jams, or what not, the handsomer the vessel that contains them the less the contents; if not, it is time they learned this trade custom.

At the present time there are two things which all who run may read; they are:—

1. The public will purchase that article which has the best exterior appearance, irrespective of quality.

2. The public are quite unwilling to pay anything extra for this superior exterior appearance.

From these two facts I argue that, were a standard bottle fixed, whether to hold one pound or less, it would merely handicap the British bee-keeper against the foreigner, and that every bee-keeper can be safely left to put up his honey in the way most profitable to himself, which is the great desideratum, and that those whose consciences tell against common trade customs will be left behind.

I trust I am not too severe upon your contributors, but I write as I feel upon the matter.—A. T. Wilmot, *St. Albans, October 22nd.*

HONEY EXHIBITIONS IN THE SOUTH OF ENGLAND.

[1196.] We in the south of England do not think that the parcel post is taken advantage of to the full extent that it may be in connection with honey exhibitions.

Managers of shows in the past appear to have aimed at obtaining large exhibits, and have arranged their schedules accordingly. Following the plan so successfully adopted at Reading, the Hants and Isle of Wight Bee-keepers' Association have arranged for a competition (*vide* advertisement) by which bee-keepers can compete at small cost to themselves. This Portsmouth show is visited by many thousands of people who would be interested in seeing what perfection has been gained by bee-keepers all through the United Kingdom. We hope that our efforts will be supported by those interested in the subject, and that we shall be able to report that exhibits have come from far and near. I shall be pleased to give any information or particulars per return.—John J. Candey.

NOTES FROM IRELAND.

[1197.] The season being over so far as honey is concerned, I have just gone through my hives, and am now able to give the results of 1892. From nine stocks I have taken 170 pounds of honey, or an average of nearly twenty pound per hive, with sufficient natural stores left for wintering. Some bee-keepers in the neighbourhood have done better, and others worse; but, considering the season, I am highly satisfied with the result. Honey, I think, is scarcely up to the standard of last season, either in *colour* or *consistency*, while of sections, any I have seen are far behind in finish of previous years. Honey shows are nearly over for another year, and I am happy to state I have added a few more honours to my already long list, though none of them *championships*. In the case of the famous Castle Douglas Show, I was debarred from attaining such an exalted position, my entries being returned through my refusal to give Scotch bankers 1*s.* 8*d.* in the £ for cashing my cheques.

The Berks Show was, I see, a great success. I am glad the Emerald Isle shared in the list of honours. I congratulate my personal friend, Mr. Anderson, of Caledon, co. Tyrone, in obtaining second place for the one-pound section. In so big a competition such a victory goes to prove what Ireland can do if she has a mind. Bravo! William Woodley! "King of English Bee-keepers!" when are your honours going to

cease? Between cups, medals, &c., you must have a large collection.

Those who happened to see the Rev. R. M. Lamb's honey at the Edinboro' Show will agree that his victory was well deserved. To my mind, his was a perfect sample. Now, "Bonnie Scotland," though you failed to snatch the cups, you made a gallant fight. Three medals and several highly commends speak volumes for the five entries from Scotland. I trust by another season other Associations will have special classes like the above on their schedules, and thus further assist in keeping up the enthusiasm so much required to bring in new recruits to bee-keeping.—JOHN D. MCNALLY.

FOUL-BROOD REMEDIES.

[1198.] Please send me some naphthaline and Naphthol Beta, as per enclosure. I would not risk feeding bees without Naphthol Beta for anything. I now require this for my candy.

Dr. Bartrum forwarded a quotation from a letter of mine a few weeks ago to the *B. B. Journal* (1146, p. 358). A day or two after it appeared in print, I examined that same hive, and I am not going to say that I did not see any trace of foul brood, but after a close inspection I only saw about five cells containing the pest, and, what is better, they did not require any feeding. I almost wished they had, as I could have doctored them a bit, and did not care to extract any honey from brood nest and feed back, for fear of tainting the extractor. All being well, however, in the spring, I will send an account of the bees' condition, as I have given them medicated candy and some naphthaline on floor-boards.—F. H. BRENES, *Brentwood, October 12th.*

BEE "SIGNS."

[1199.] At Middleton, co. Cork, Ireland, there was, according to Mr. John Hotten in his history of sign-boards, the sign of a beehive, with the following under it:—

> "Within this hive we're all alive
> With whisky sweet as honey;
> If you are dry step in and try,
> But don't forget the money."
>
> JOHN M. HOOKER.

CHICAGO EXHIBITION.

[1200.] I write to say that I quite agree with Mr. Blow that "*the Americans should be let severely alone*" in this matter, whereby I think an Englishman best shows his patriotism, for I utterly fail to see that any benefit could accrue to British bee-keepers, for which reason I feel that I should not be wise in subscribing to it. What is the meaning of the McKinley tariff if it is not to induce Canada to secede from us, an object which, I am glad to say, I am confident the McKinleyites will fail to accomplish.—A. T. WILMOT, *St. Albans, October 22nd.*

Queries and Replies.

[667.] *Non-sectional Supers.*—I wish to ask whether, if a Society issues a schedule offering prizes for a "non-sectional super," and the judges award a first prize to a *sectional* super, could the second prize winner, who fairly complied with the schedule, take action against the show committee or its secretary for the value of the first prize, seeing their schedule pointedly says "non-sectional?" I wish to have your advice on this matter, as I mean to take action against the executive of a certain show for awarding the first prize to a super consisting of five frames taken from one or more hives and screwed into a square glass box. Is the judges' decision final, even if it don't comply strictly with the wording of the schedule? Any good resulting from my action would be useful for the future guidance of show committees, and compel them to award their prizes according to schedule. I have thought it best to have your opinion this present week through the *B. J.* before I take any further action in the matter.—J. D. MCNALLY.

REPLY.—Much will of course depend upon the wording of the schedule. The proper course would have been to enter a formal protest against the award at the time, for there can be no doubt at all about five frames of honey in comb being distinctly *sectional* in every seuse of the term. We do not quite know what the legal position would be before a Scotch Court, especially as we have not a copy of the schedule before us. Can you send us one?

[668.] *Straightening up Hives for Winter.*—1. What is the best way to clean off propolis and burr-comb from top of frames? I found it a very unpleasant and troublesome operation; the bees simply boiled up and I could not keep them down with smoke. The scraping seemed to irritate them. 2. How would you clean out the *débris* at the bottom? 3. I should like to adapt some "lifts" for shallow frames: how shall I set to work? 4. Can shallow frames be had in boxes like the crates for sections? Bee-books are very explicit on the latter, but rather meagre with regard to shallow frames and their accessories.—TYRO, *Devon.*

REPLY.—1. If the bees are not amenable to smoke from ordinary fuel, use a little tobacco along with it; or a carbolised cloth laid on the tops of frames for a moment or two will drive them down. It is useful for an amateur, dealing with vicious bees, to have an assistant to keep the smoker going while tops of frames are being scraped. 2. The usual way is to lift the body-box off the floor-board while the latter is being cleaned of *débris*. 3. You must say what type of hive is used—with outside case or otherwise

—before we can advise as to making "lifts." 4. Yes, any dealer will supply you with such.

[669.] *Overfed Brood Chambers.* — Having kept bees for but three months, I should be extremely grateful for advice under the following circumstances:—The brood nests of two of my hives are so heavily stored with honey and syrup that I don't think there is a single cell available *at present* for egg-laying. When packing for winter, ought I to insert an empty comb in the middle of each hive, or will the consumption during winter afford sufficient room for the queen by the time when she would *naturally* begin laying?—C. Coke, *Derby.*

Reply.—There will be plenty of empty cells available for egg-laying before breeding begins for next season.

[670.] *Alcoholic Solution of Naphthol Beta.*—1. Possibly many of your readers besides myself would be be glad to know the least quantity of spirits of wine (or would methylated spirits do as well?) required to dissolve the Naphthol Beta. I tried a solution of twelve grains to the drachm, but found that on mixing with the hot syrup some of the Naphthol Beta went back to its original state. 2. I feel that a quarterly, or even half-yearly index, would be a boon to many readers of the *B.B.J.*, but as you do not give it us I presume there are difficulties in the way of expense.—Derfla, *St. Albans.*

Reply.—1. The instructions are to "Pour just sufficient spirit on the Naphthol Beta to dissolve it and make a clear liquid." If this is done it will remain in solution. Methylated spirit is only objectionable because of its admixture with a substance the bees don't like, otherwise it may be used if the rectified spirit of wine cannot be got. 2. Yes, the expense and the extra trouble is the objection.

[671.] *Sugar Crystallising.*—Is there any means of preventing sugar syrup from crystallising? I have tried different kinds of sugar, including that warranted to be pure cane, and find that, when boiled in the proportions mentioned as for winter food in the *Bee-keepers' Guide-book*, it sometimes crystallises so much that the feeders become completely clogged, and the bees are unable to take it down. Would more vinegar and water, with additional boiling, remove the difficulty, or would it render the syrup unsuitable for winter food?—An Amateur.

Reply.—If boiled gently for one minute or so, the syrup should not crystallise. A little additional vinegar will, no doubt, lessen granulation.

[672.] *Recognising Old Queens.*—I am sending by this post a dead queen-bee; the stock she reigned over was a this year's swarm, and in July we noticed an abnormal number of drones being ejected from that hive; there were many hundreds of them. I was away all September, so could not look after them; on my return, I opened the hive on the first fine day to see if they required any candy, and found the stock very weak in numbers, the queen and most of the others dead, a few just able to crawl, and no food in the hive. Would you kindly tell me, through the medium of your *Journal*—1. If she is an old queen? 2. How one can tell an old queen? and 3. What race she belonged to? I found the bees in my other hives strong and well, and, as they were on ten frames in each hive, I took away two frames from each and extracted the honey from them. 4. Was this right? 5. How should I treat the sticky combs, as it is too late to give them back to the bees to clean? The eight frames left for each lot seem pretty well filled with honey.—Percy Sharp, *Newark-on-Trent.*

Reply.—1. Queen is too dry for dissection, but from her appearance, we should think she has never been fertilised. 2. Among other indications, by the ragged wings and want of pubescence or hairiness on the body. 3. The ordinary native race. 4. Yes, if sufficient food was left behind. 5. You may set the combs on, and see if the bees will clean them up, but put an excluder between them and the body-box.

Echoes from the Hives.

Algiers, October 12th. — Thanks to you I have at last received my extractor ordered last February. I would invite you to pay us another visit this winter, when I hope that our bees will give you a more favourable reception than they did last time, and I am sure you must have a very painful recollection of them. Yesterday I saw Regnier at Boufarik. He is establishing two apiaries of 1000 hives for M. Debouno. He has adopted your frame and system, makes all himself, and is taking a great deal of trouble over it. His apiary at Staoueli is temporarily in charge of a Spaniard, who looks after it and cultivates his land. I am going to let him have my extractor, as it is too small for my frames. M. Collin, the bee-keeper whom you visited at St. Eugene, has been to see my hives. He was astonished at all the improvements I have pointed out to him, and has promised to come to see your hives at my farm. He wished to be remembered to you.—L. Roux.

OUTSIDE INDICATIONS THAT BEES ARE GETTING HONEY.

A correspondent writes: "How can I tell when my bees are gathering honey without opening the hives? When bees are busy going and coming from the hive, and we see no pollen on their pollen baskets, does it indicate that

they are getting honey? Please answer through the *American Bee Journal*, as I am taking that paper, and like it very much."

Bees may be flying very briskly, and yet not be securing any honey from the fields. When young bees come out for the first time to take an airing, a casual observer might think they were at work very busily, while the truth would be that they were doing nothing but play.

These young bees have deceived very many in times of scarcity of honey, in being taken for robbers, for in actions they behave very much as robbers do in heading toward the hive and circling away from it, and also in being full to look at. I have often watched them, asking myself the question, "How can they be distinguished from robbers by the inexperienced?" and must say that only in looks do they appear differently, they being light-coloured and covered with down, while robber-bees are generally old, dark-coloured bees, with the down scraped off. The actions of the two are very similar.

Again, in the summer season, when a large quantity of brood is being reared, I have often thought that the bees were getting honey quite rapidly, immediately after a long-continued rain, and wondered at it; but an examination showed that they were loaded only with water, which is required in large quantities when brood-rearing is going on rapidly.

Once more. Bees often fly briskly when neither honey nor pollen is being gathered, especially in the spring of the year. At this season they will fly out every pleasant day, marking their location, &c., and getting ready for the time when there is something which can be gathered. Bees which are securing honey do not fly as easily on their return as do bees when not at work, but come down on the alighting-board with a kind of dropping motion that at once shows that the bee has a load of something. Then the sound of the wings is different, for the motion is slower, and gives only a tired hum, instead of a sharp sound, as is given by angry bees.

In times of basswood, when there is a large yield, the bees will start out in early morning, and come home loaded so heavy that they will fall short of the hive several feet, and often fall all around in the grass and on top of the hives, being unable to rise for some time. As the day advances they do not show this so much; but as night comes on they begin to fall as before, some even staying out over-night, darkness overtaking them before they reach home. In such times as this it is easy for any one to tell that the bees are getting honey.

In times of clover and other flowers, when the yield is not so great, if you will get your eye on a level with the alighting-board, it is quite easy to detect a loaded bee, even though the load may be light, from one that has no load. Such loaded bees hold the abdomen lower down than bees with no load, so that the abdomen strikes the board as soon as the feet do, while with a heavy load it strikes first, often causing the bees to bound up, as it were, and sometimes tumble over entirely. Many an hour have I watched the bees in this way, to see what could be told from outside appearances.

But, so far, I have given nothing definite, only as the increase of honey in the hive kept pace with the signs from without, which point to the above being right. How did I tell for certain that these outside appearances were correct? Well, if you will catch a bee and dissect it, you can know for a certainty what it has in its honey stomach, and this is the way I tell, if I am not sure I am right from outside appearances.

As the bee drops on the alighting-board, with a quick motion put the finger on the thorax, bearing down until the thorax gives way, which will kill the bee at once, and do it quicker than any other way I have seen tried—even quicker than the "painless death," as the scientists suppose, which they practice in killing their specimens for scientific research.

Having killed the bee, pick it up by the wings, when you will take it by the thorax with the left hand, and with the point of the blade of your jack-knife pull off the horny scales of the abdomen by slipping it under them and placing the thumb above. When the honey-sac is secured, it is easy to tell what it contains by the taste.

Don't understand that I go around killing and dissecting bees all the time during the summer months in this way, for only five or six are killed in a season to guide me in my observations, for I always think it is very cruel to kill anything, only as something of importance is to be gained.

From the above, I think the correspondent, or any one, can tell when the bees are at work, and when they are at play. All should practise these outside observations, along the many lines that are offered us, for often by them we can learn when and what needs doing; when different plants are in bloom, &c.—G. M. Doolittle, *in A. B. J.*

Bee Shows to Come.

November 2nd, 3rd, and 4th.—Hants and Isle of Wight B.K.A. at Portsmouth. Classes open to the United Kingdom. Entrance free for single section of honey in comb and for single jar of extracted honey. For schedules and particulars apply to Mr. J. J. Candey, 197 Commercial Road, Landport.

November 10th.—Autumn show of the Essex B.K.A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax, open to members of the Essex B.K.A. only. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. F. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

SPECIAL NOTICE TO CORRESPONDENTS.

Notwithstanding the announcement made some little time ago relating to the whole of the business of the *British Bee Journal* and *Record*—including correspondence connected with subscriptions, advertisements, &c.—being for the future conducted at our London office, 17 King William Street, Strand, W.C., when full particulars were also given as to payment by cheque, postal orders, &c., letters continue to be addressed to Mr. Huckle, Kings Langley, with cheques, postals, &c., made payable to him.

Seeing that inadvertencies of this kind, unintentional no doubt, are causing a considerable amount of unnecessary delay and trouble, to say nothing of extra cost in postages, we respectfully request that *business* communications of every kind be addressed as above; cheques made payable to "The Manager," *Bee Journal*, and crossed London and Westminster Bank; postal orders made payable at Bedford Street, W.C. When postals are *crossed* they should not be made payable at any post-office, but the space left blank for us to fill in.

By attending to the above simple regulations we shall be relieved of unnecessary labour, besides ensuring more promptitude and accuracy in the dispatch of business.

THE CHICAGO EXHIBITION.

We have received several donations and promises of honey for the above in addition to those already published, as well as the sum of 2*l.* 10*s.* to be added to the special fund to meet the expenses connected with the exhibit. Particulars will appear next week.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

*** A correspondent who dates from Mereworth, Maidstone, October 20th, and sends subscription for *B.B.J.* with no name attached, will oblige by forwarding same.

E. W. (Devon).—*Help of an Expert Wanted.*—Unfortunately there is now no county Association in Devon, and membership of the British B. K. A. does not include among its advantages that of "Expert" assistance. Perhaps some reader residing in Devon, who is willing to help you, will drop a post-card to us, when we could forward it on to you.

Box (Feltham).—There is no objection to hives being placed *on* a galvanised roof eight feet above ground if the bees can have the entrances protected from high winds.

F. H. (Barnet).—*Space Below Frames.*—When bees require ventilation in hot weather, an inch space may be given between bottom bars of frames and floor-boards; but if this space be allowed permanently, it is very probable that the bees would build drone comb to the under side of the bottom bar when swarming-time drew near.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

British Bee-keepers' Association.

Established 1874.

President: THE BARONESS BURDETT-COUTTS.

THE Committee appeal to Bee-keepers, Manufacturers of Bee-keeping Appliances, and others desirous of promoting our Home Industries, to become Annual Subscribers or Donors to any Special Branch of the Association's work.

Subscriptions, 5*s.* and upwards per annum.
Life Members, £5.

The Association carries out its work by—

The holding of Annual Exhibitions;
Assisting County Associations;
Sending out Lecturers and Experts;
The publication of Literature relating to the best methods of Bee-culture;
The disposal of Bee-produce, &c., &c., &c.

PRIVILEGES OF MEMBERSHIP.

1. To a free pass to the Association's Exhibitions;
2. To attend the Quarterly Conversazione and participate in the debates.
3. To copies of the Reports of Meetings, and Papers read, when published, with the discussions thereon.
4. To purchase at a reduced price all other Publications of the Society.
5. To the free use of the Library, containing upwards of 200 volumes of the best and rarest Works on Bee-keeping.
6. To avail themselves of the facilities offered in Exhibitions, &c., for the disposal of their Honey.
7. To participate according to the Rules in the Management of the Society.
8. To exhibit at the several Exhibitions arranged by the Association at a lower rate of Entry Fees than is charged to Non-Members.

Secretary: J. HUCKLE, Kings Langley, Herts.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

THE CHICAGO EXHIBITION.

The Sub-Committee of the British Bee-keepers' Association, appointed to carry out the details connected with the proposed exhibit of British honey at the World's Fair, have, we believe, under consideration the advisability of offering prizes for the best sample of five pounds of extracted British honey, granulated or liquid.

If the idea at present entertained is to be carried out, no entrance fee will be charged, but each exhibit will become the property of the B.B.K.A., and if of sufficient merit will form part of the British exhibit at the World's Fair.

We take this early opportunity of mentioning the matter, even before the details have been quite decided upon, in order that no time may be lost, and trust that it will result in a considerable addition to the quantity of honey already promised, which at present consists of donations from the following ladies and gentlemen :—

Hon. and Rev. H. Bligh.
Rev. R. M. Lamb.
Rev. L. B. Birkett.
Captain Campbell.
Miss J. A. Davey.
Richard Dutton.
Jno. Palmer.
T. F. Leadbitter.
Wm. McNally.
Wm. Sword.
Henry Wood.
A. J. Carter.
Elvey E. Smith.
T. Pritchard.
T. W. Cowan.
Thos. Badcock.
W. W. Pryor.
Jesse Garratt.
Albert Venn.
John Walton.
E. J. Oaten.
T. Giles.
W. Broughton Carr.
R. A. H. Grimshaw.
Rev. W. E. Burkett.
Rev. Dr. Bartrum.
Miss B. F. M. Doyne.
J. W. Kievill.
J. North.
F. W. South.
R. J. Glew.
E. Longhurst.
Rev. C. Feetham.
Miss Feetham.
Rev. G. W. Bancks.
G. Wells.
E. D. Till.
W. H. Seymour.
Cathedral Dairy Co., Exeter.

Members of the Essex and Wootton-under-Edge B.K.A. have also promised donations of honey.

The donations to the special fund for meeting the incidental expenses of the above exhibition has now reached the sum of 5*l.* 10*s.*, contributed by the following gentlemen :—T. F. L., Brondesbury; Rev. Dr. Bartrum; Rev. R. M. Lamb; Rev. E. Davenport; Anon.; and T. W. Cowan.

THE SCIENCE OF BEE-KEEPING.

(*Concluded from p.* 418.)

The cineraria begins to flower at the outer edge or ring of florets, and presents each morning one or more inner rings of florets ready for the bee to work on. In thus working the bee collects the pollen from the anthers of each floret with the mandibles and fore legs, while the tongue is occupied gathering honey in the small cup below. The cineraria is beautifully adapted for this double purpose, the bee ensuring cross-fertilisation by the hairs of her auxiliary store of pollen under the thorax rubbing against the expanded stigmas of the outer rings of the flower, while she is occupied

gathering pollen and honey from the inner rings.

Some flowers are visited by bees chiefly for nectar, only a few gathering both pollen and nectar from such. One of these is *borage*, and it is interesting to observe the difference between the movements of bees engaged in the one way or the other while visiting that plant. The five stamens of the borage bloom point downward, forming a short pointed cone. The bees not gathering pollen have their feet at rest while these are grasping the cone, the tongue being occupied collecting the nectar. When such bees take wing their hind legs are kept wide apart. On the other hand, such bees as are occupied gathering both pollen and nectar keep their centre feet in continual motion while on the cone of the flower. The feet are also repeatedly slipped down inside the folds on the inner part of the stamens while at work. When the bees takes wing its hind feet are always in close contact, compressing the prepared pollen from previous visits, and thus adding a fresh mite to the pollen pellets. These separate indications mark the two classes of bees, whether the pellets are visible or not.

There are also flowers on which the bee works but for a short space of time, rapidly passing from one flower to another while gathering pollen—notably the dandelion, the large disc of this flower forming a good resting-place for the bee while conveying the pollen grains direct to the basket; yet it never touches the latter with the centre legs while on the flower, but immediately it takes wing the prepared pollen is speedily passed between the compressors, and these latter do their allotted work while the bee is passing from one flower to another, which seldom occupies more than five seconds of time.

Another exceedingly interesting flower is that of the *common broom*, which plays an important part in securing its own cross-fertilisation, both by its structure and by a mechanical action, which takes place at the first visit of the bee. During my numerous observations, I noticed that bees were able to remove pollen from every part of their body excepting the triangular portion on the thorax, between the wings. I also observed subsequently that this fact, in the case of the broom, secures of itself cross-fertilisation. The best time to observe bees working on the broom is about eight a.m., when the fresh flowers, developed during the night, are ready for the first visit of the insect; later in the day, bees seldom find a flower that permits of a first visit, all the others being simply revisited.

The flower of the broom has a pistil over an inch in length, enclosed, together with the stamens, in the two petals which form the boat-shaped part of the flower. The bee places itself on the *wings* of the flower to draw the nectar, when the two *keel* petals gradually open and liberate the pistil. The latter then suddenly strikes the bee a blow between the wings on top of the body. This action somewhat resembles that of a man swinging a sledge-hammer, the pistil making a circular motion, which causes the stigma to strike the bee on one exact spot on top of the body, as stated above. In doing so the stigma of the flower gathers pollen deposited on the spot referred to from the stamens of flowers previously visited, and cross-fertilisation is secured accordingly in a manner quite wonderful to behold. There are also four long stamens that strike a little after the pistil, and a little farther back. By their action the pollen granules are pushed forward, and serve to fertilise the next fresh flower visited by the bee. The "style" of the pistil has a powerful spring to ensure of its stigma striking first, and bends up in a circle immediately after it has performed that operation on the body of the bee. The latter uses its hind legs when necessary to open the *keel* petals, and so assists in liberating the pistil and stamens, while it removes the pollen with the fore legs, transferring it to the auxiliary store under the thorax.

In the broom we are thus enabled to observe an actual mechanical movement in the flower, brought into play by the agency of the bee, which thus effects cross-fertilisation in a most marvellous manner. How the perfect adaptation of these means to an end has come about is a striking instance of an ever-present omnipercipient Providence, as seen throughout all Nature's handiwork. Here we have adaptation in perfection, where the flower actually takes advantage of the singular fact that the bee cannot possibly of itself remove the pollen from that particular part of its body, and so it remains to be gathered therefrom by the pistil as described, while the stamens of flowers previously visited go on placing a fresh supply as the bee pursues its daily toil. Well may we exclaim, "How wonderful are Thy works! In wisdom hast Thou made them all."—PETER BOIS, *Jersey*.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "THE EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17 *King William Street, Strand, London, W.C.*" *(see 1st page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1201.] We have had chequered weather in this district since my last "Notes." Last Sunday the Hampshire hills in the distance were covered with snow to the depth of two inches.

This, coupled with four degrees of frost, tended to keep the apiary very quiet. Then, after two or three sharp frosts, we have had a three days' rain, nearly continuously; but, as we lay high, we get no inconvenience from the water except an overflowing pond, which ceases with the rain. Now, at the time of writing, the sun is shining quite warm, and thousands of bees are disporting in the sunshine.

The advertising columns of bee journals have many advertisements of second-hand hives for sale, which, no doubt, generally find purchasers. Now, these hives, though cheap at first cost, may prove dear even at a gift if any taint of foul brood exist about or in them; but supposing we have purchased these hives, with which other bee-keepers have become negligent and allowed their bees to die either of starvation or disease, what shall we do to ensure our bees, when placed in them, having a *dulce domum?* In the first place, the inside lining of the hives should be removed if of the combination principle, and the best thing to do with this would be to burn it. Now, after thoroughly scraping and clearing out all removable dirt, mix equal parts of carbolic acid and water, using a little glycerine to make the water and acid amalgamate, then paint the whole of the interior parts of the hive with the mixture, taking especial care to work the acid into the corners, crevices, and joints. Then allow it to dry thoroughly, and after that give two coats of ordinary paint, the first primary coat very thin, using plenty of turpentine to reduce consistency. Then, after paint is quite dry and hard, put in a new lining, and with the packing (cork dust) mix an ounce of naphthaline crushed to powder. This, if well done, will kill off all germs of bacillus, and render the hives suitable habitations for healthy bees. Hives cleansed thus, if done some time before they are wanted, will lose all objectionable odour.

County Associations may spread the good work of hive sanitation through their experts, who usually visit all members in the autumn of the year and also in the spring. These gentlemen could easily carry a supply of naphthaline and insert some in each hive—not only frame hives, but also straw skeps. So easy is this germicide of application that every one who keeps bees can use it; not only the scientific bee-keeper, but the veriest dolt in the craft can put a lump or two in the hives at any time or any season.

Don't neglect to prepare for winter. Make the hives, roofs especially, waterproof, and also secure against the high winds prevalent in the *winat* (wind) month (November) of our forefathers. Depend upon it we shall get similar weather in the coming November as we had in like periods of the past, and in exposed situations precautionary measures will bring tranquillity to the mind of the bee-keeper who has adopted them.

The *Deutsche Imker* says that a colony of bees consume food as follows:—October, 2 pounds; November, 1 pound; December, 1 pound; January, 2 pounds; February, 3 pounds; March, 4 pounds; April, 6 pounds;—total, 19 pounds. So that our contention that a colony should have 20 to 25 pounds to winter safely leaves only a small surplus over actual requirements.

I don't see my way to advocate a standard bottle for honey. Honey, I contend, is sold at per bottle or per section, not per pound. In either case, if a customer calls for one, two, four, seven, or ten pounds of honey, and brings his own pot, bottle, or jar, he receives sixteen ounces to the pound at per pound; but if he wants a section or a bottle, he is charged so much per each article.—W. Woodley, *World's End, Newbury.*

"THE SCIENCE OF BEE-KEEPING:" CRITICAL.—II.

[1202] I cannot do better than make my opening paragraph the closing one of the first article by your contributor. He tells us "It is as absurd to suppose that bees roll themselves in pollen for the purpose of carrying it home on their backs, as that a coalheaver rolls himself in the coal-heap to fill his coal-bags." In the first place, I have yet to learn that this method of collecting pollen is the common belief: where is it taught? That the bee does come back to the hive frequently covered with pollen (although said to be a popular error) we know as a fact. Secondly, to follow up the coalheaver simile, if this sable gentleman were provided by nature with as beautiful and perfect a system of appliances suitable for collecting and massing up his coals as is possessed by the bee in its hairs and combs, and if the coals were proportionately small as pollen grains are to the bee, say coal-dust for example, we should not think him absurd if he did roll himself in it as a more rapid method of collecting it. How very many times has the careful observer watched the bee alight on a flower, plunge its tongue down to the basis of the petals, ferreting for the minute droplets of nectar, whilst he has gazed in admiring wonder at the marvellous wisdom displayed in the arrangements, mutually accommodating, between bee and flower, as the pollen so to speak, "gathers itself," the hairs of the bee's body being just at such a distance from the overhanging anthers, that their irritating touches, as the bee fussed about in the flower, caused the rupture of the anther-case and the fertilising dust was shed on the bee, to be carried about as the bee went on in its search for nectar collected as wages for the services it had unwittingly rendered the plant by rubbing itself, as it worked in the flower, against the pistil, this being covered with its eager adhesive secretion, so that the fecundating work shall not fail; and is this to be all nothing, untrue, and void of significance? I trow not.

We come next to the opening sentence of the second article, and this is equally as faulty as its predecessor:—"Another common error is to

regard the brushes, so called, on the inner part of the hinder legs, as appendages used to gather pollen," and the author at once proceeds to quote Cook, who calls them pollen combs. I must suppose that, even taking his own version of the matter, they play a part in the manipulation of the pollen between the flower and the hive, so do the body hairs, and therefore it is no error, but quite logical and fair, to call these combs and hairs "appendages used to gather pollen." Yet, astounding to relate, the next paragraph commences with these words: "Now, the hind legs of the bee play positively no part in gathering pollen. That fact alone disposes of the question." Did any one ever hear such dogmatism? The writer keeps contradicting himself, then he makes a rash, illogical assertion, and disposes of the question by calling his statement a fact! Now go to the next paragraph (I notice all the errors show themselves in the openings of paragraphs):—"It is perfectly misleading to say of these hairs that they 'gather.'" Of course they gather. The tongue, the hairs, the rows of combs, and the pollen baskets are all used by the bee in the gathering of pollen; it is merely quibbling and splitting straws to take exception to the use of good words which express, in proper English, the notion intended to be conveyed. Mr. A. I. Root is next taken to task, but I will leave him to take care of his own. Mr. Cheshire is dealt with, also, in a very summary fashion. "He was dealing with a question which had puzzled all previous authors before himself to unravel, and which might have remained still unsettled were it not for my own special discovery."

We now approach the "system" and this is followed by nineteen rules. To call these *rules* is to misuse terms. The author, with an audacity truly amazing, begins by altering the nomenclature of parts of the bee's anatomy and substituting words invented by himself.

The pollen combs are to be termed compressors.

Antennal cleaners . .	tongue-extenders.
Comb or pecten above the pollen combs . .	the pollen-preventer comb.

New terms, "dry pollen" and "prepared pollen," are also coined.

Rule 1 says, "All pollen gathered by the honey-bee receives an admixture of saliva outside the hive before being formed into pellets."

Where is the evidence that saliva is used, and not honey, in the kneading of pollen masses (pellets is not a good word).

Rule 2 is equally erroneous in denying the hairs, pollen combs, and baskets, a share in the business of pollen-gathering.

Rule 3. Ditto, by saying all pollen must pass into the mouth.

Rule 4 is arbitrary and unsupported by evidence.

Rule 5. Ditto.

Rule 6. *Vide* Cheshire.

But when we come to Rule 9 we get a statement that crowns the whole edifice. We are told "the process which the pollen undergoes in the mouth of the bee, with the help of the mandibles, appears to be the breaking or disintegration of some of the pollen grains, the possible elimination of some of the pollen husks, and giving the pollen a charge of saliva. It may undergo some other process, because it remains in the mouth a comparatively long time." These microscopic atoms are in fact to be cracked like nuts by the jaws of the bee and the shells thrown away. Oh, well, this is really too rich to be disturbed. Wonderful watcher, who has timed the mastication of pollen grains, and has no means of telling whether the pabulum is swallowed or spat forth to be stored in the pollen baskets!

Rule 11 gives us the work said to be performed by the pollen combs, about which, as the gist and kernel of the whole series of articles, more shall be said later on. Mr. P. Bois, whom we now know as the author, is, I contend, in error when he suggests the combs perform the duty of "destroying minute insects or their eggs which the pollen may contain." If these things are so minute as to become mixed with pollen grains (which of themselves require a microscopic vision), and if they escape the disintegrating nut-cracking process above alluded to, they will pass the pollen combs of the hind legs of the bee.

We come now to Rule 18, which says, "When a bee takes wing, in passing from flower to flower, if it has the hinder legs together (that is, with the compressors joined), it is gathering pollen to a certainty." Close observation on my part has shown me that bees bent on *honey*-gathering before actually alighting on a flower hover a second or two, and bring the pollen combs together, moving them against each other not unlike the motions of the hands of a woman kneading bread, who thus clears the dough from between her fingers. I also have noticed that when it takes flight the hind legs are spread *apart*. Does Mr. Bois assert that bees do not gather *both* honey and pollen on the same journey? He certainly infers it in Rule 18 and Rule 19. How has he been able to get evidence of this alleged fact, "That the proper conditions for compressing prepared pollen are present when it is on the wing, and that the bee always uses the compressors after visiting flowers, so soon as it takes wing again, if it has been gathering pollen?" We get plenty of statements of so-called facts, for the support of which very little evidence is forthcoming.—R. A. H. GRIMSHAW.

(*To be continued.*)

STANDARD HONEY BOTTLES.

[1203.] I am glad this matter is being taken up, and to find our old friend "X-Tractor" from the "Hut," hopes for its speedy accomplishment. H. Hill (another friend of mine) makes some useful suggestions, and I hope they may be carried out. I quite agree with him when he

says these *reputed pounds* are easily discernible to the practised eye, and we need not empty their contents (as you suggested in a footnote to my former letter, 1168, p. 389) to discover whether they hold a pound or only fourteen ounces.

Your correspondent (1195), A. T. Wilmot, is very inconsistent in his letter; after charging us with eccentricity, he says there can be no greater admirer of high principles than himself, and yet he talks about "trade customs," and asks if these advocates of full measure consider themselves defrauded when they purchase a quart bottle of wine and find that it does not contain a quart. Let me say I have no experience in purchasing either quart or any other size bottles of wine, as I have been an abstainer over twenty years, and am not acquainted with the trade custom in wines, &c., and have no wish to be either, but I hold that no "trade custom" ought to defraud a purchaser of what he expects to receive, viz., full weight and full measure.

My experience does not agree with your correspondent. In this district we find that the public come to us bee-keepers both for honey and wax, and this applies to both poor and rich alike, and the main reason they tell us is, because they know they will get it pure and full weight, and they do not want the foreign article, so attractively put up and sold by the trade. I find the public, about whom A. T. W. seems so anxious, do not care for so much "exterior appearance," but that quality and weight are expected, and even this does not prevent attractive get up; it is as easy to make a full pound of honey attractive as fourteen ounces, and as to foreign competition, that can easily be left to the quality of our British honey.

I trust there are not many British bee-keepers who consider profits before honesty, and cunning rather than conscience. I am convinced that these miserable "trade customs" are undermining our reputation as Englishmen and English traders in our home markets and in the markets of the world, and I for one (whatever trade customs may be) will be guided by and stick to the right. A. T. W. says he writes as he feels; so do I, and I hope he will show his admiration of high principles by refusing to be guided by "trade customs" in the future, but by principle. "To falter would be disloyalty" to the principles he professes to admire.—HEMLOCK STONE, *October 29th*, 1892.

TWO QUEENS IN ONE HIVE.

[1204.] A correspondent (661, p. 400) describes a failure with two queens in one hive. I send you a case of success happening to myself. Having taken my five stocks to the heather about mid-August, I prepared one of my ordinary hives, holding eleven frames and a dummy running parallel to the entrance, by cutting a flight-hole in the back. I next got an ordinary dummy and bored in it about twenty small holes, none lower than three inches from top bar. This dummy I fixed in centre of the hive, filling up either side with worked-out combs, partly filled with unsealed honey. Meanwhile I received six pounds of driven bees, accompanied by one queen. They came over 150 miles by rail. These driven bees were thrown out in front of hive entrance, and they ran in. The front half of the hive, however, would not hold all the bees, and they clustered over the hive front, so I removed the dummy and allowed them the run of the whole eleven frames. Early next morning I divided the bees by pushing the dummy down the centre of the hive, leaving about an equal number of bees on each side of the dummy. A young queen, previously ordered, arrived the same day, but on opening the hive in the afternoon I found that all the bees had rejoined the old queen in the rear portion of the frames.

With the help of a friend who is very quick at picking out queens we searched her ladyship out, and put the comb on which she was in the rear portion of the hive with the smaller portion of the bees. We next carefully adjusted the frames, placing queen-excluder over the rear portion of the frames, the front part, or queenless portion, being covered with American cloth, with a hole in the centre. Over this hole we placed the young queen in one of friend Howard's simple but effective cages for introducing queens, and in the evening set her at liberty.

Next day the bees had taken to her without further trouble, so I took off the American cloth, and, after putting excluder over the whole of the frames, set on a box of shallow frames, fitted with comb foundation. Over this I placed a rapid feeder, filled with warm syrup, the bees from both lots taking to it amicably, and rapidly working out the combs. I continued to feed until the combs were nearly all filled and partly sealed, the bees carrying in pollen, and actually passing through the front entrance and passing over to their own queen in the rear part.

I overhauled my bees on October 22nd, and fixed them up for winter, the hive with two queens still working in the shallow-frame box.

The season has been a bad one here, for I only took thirty pounds off five hives after coming from the moors, leaving each with about the same weight to winter on.

I will give you further account of how this hive gets on next year.—W. B. HUTTON, *Rudby*.

SUPER-CLEARERS AND SELF-HIVERS.

[1205.] Could you give a drawing of the Hooker self-hiver? From Mr. Woodley's description (1167, p. 388), it would appear not difficult to make, and as if it would answer its purpose.

I made a super-clearer out of a box which I found was just the size of my supers. The village joiner made three large round holes for me at one end of it; over these I fixed three cone clearers, then placed my full super on the box, which was waiting on the top of an adjoin-

ing hive; a full light being thus thrown into the box through the perforated zinc cones, the bees were not long in clearing out. My supers in the hives have grey calico tied over the top one, and thinking this might let light through when the super was on the box, I covered it with a quilt. Later in the summer, I got the joiner to make two large holes in the bottom of the box; then, lifting a full super in the hive, I placed the box wrong side up on the super below, dropped two cones through the holes, and replaced the full super. This was done in the evening. Next morning all the bees were out. The box has a rim a quarter of an inch thick all round the bottom, so as to prevent bees being crushed when the super is placed on it; and I slip a tin slide, once a divider, over the three end holes, under carpet tacks not tightly pressed in. The tin slide covers the holes in the bottom as well when wanted to do so.—BEESWING.

[A sketch of the self-hiver as originally designed by Mr. Hooker appeared on p. 173 of *B.B.J.* for May 5th. Some improvements have, however, since been made, and it is probable that the designer may still further improve upon it after this year's experience of its working.—EDS.]

JUDGING OBSERVATORY HIVES.

[1206.] When I asked that the above subject be "thoroughly ventilated," I did not wish for one moment that the awards of any particular judge should be singled out and subjected to criticism; nothing was further from my thoughts. But what I desired was that this matter might be fully discussed by judges as well as exhibitors, to the benefit of both. I must admit that I am at a loss to comprehend why a judge may not join in the discussion. Surely a judge who is worthy of the title need not hesitate to submit his opinions; and who knows how much good might emanate from such a discussion if entered into in the proper spirit?

I do contend that our judges should, at all events in the main, be of one opinion, and this is certainly not the case when one who ranks high (and deservedly so, too) emphatically states that a hive in which the queen cannot be seen, and the faces of two combs only (and those generally devoid of brood) are visible, "is as much an observatory hive" as one where the queen, brood, and everything contained in the hive are in full view, and that the last-mentioned is merely an "exhibition toy;" and another of our pioneers disqualifies, or rather passes over, a precisely similar exhibit to the one first described, and justly so, I think, on account of being unable to see the queen, &c.

The particular points which I should like gone into in all friendliness are these:—Should the hive itself, number and condition of combs, amount of brood, presence of drones, drone comb or brood, honey and pollen, appearance of queen, also size and purity of strain of bees, be taken into consideration? If not, which should be ignored? If I might, without appearing presumptuous, offer my opinion, it would be that all the points enumerated above should have due consideration, if only from the fact that this class is to show the public as much of the interior of a hive as possible. It is, I think, obviously unfair to the exhibitor, who, having taken the thought and trouble to display all it is possible for him to do, to learn that all his trouble was in vain, as the judge disregarded everything save one point, say the queen, as I know one judge to do.

I had anticipated that my action in this matter would be designated the outcome of defeat, hence my concluding remarks (p. 409), and I must in justice to myself, seeing that I have this season been fortunate in every instance except one in securing premier honours in this particular class, dissociate my name from the prefatory remarks *re* "Criticising Judges' Awards" in last week's issue. I may add that I think nothing tends to more seriously jeopardise the "confidence in the competency of judges" than the existence of such radically adverse judging, and with a view of strengthening the confidence rather than otherwise I pen these lines, at the same time expressing my admiration for the impartial and fearless manner in which our judges in general adjudicate, for, as I have not unfrequently stated, I think there is scarcely an exhibition of any description so free from fraud as our bee and honey shows.—CHARLES WOOTTON.

THE PAST SEASON IN THE NORTH.

[1207.] We have reached the close of another year, with honey as scarce as in 1891 and the year before. We are getting used to bad seasons here in the north, especially when the bees are at the heather, for we have not had a good heather season since the Jubilee year. I am glad to hear that our friends in the south have fared better. It sets one longing to live in the south when we read of one of our editors taking his friend Mr. Grimshaw to see the bees, in the first week of July, with their surplus chambers full of honey and a glorious sun pouring down upon them, while up in the north sections had to be taken off empty as put on; instead of a hot sun, nothing but a cloudy sky, with rain nearly every day.

I have been very much interested lately in Mr. Wells' system of securing a good average per colony, and think it a decided advance in bee-keeping. After making a hive according to the instructions, I intend trying it next season. If our seasons do not improve, however, no system will be of any use here.

A good many people were disappointed at our Yorkshire Association's Show at Middlesbro' in August, through the absence of the bee-tent and lecturer, caused, as I was told, by the usual lecturer having unfortunately died. Surely this attraction ought not to have been absent seeing

that our Hon. Secretary is himself an excellent lecturer and takes so great an interest in the subject.—JOHN BAINBRIDGE.

A YEAR'S EXPERIENCE WITH MY SELF-HIVER.

[1208.] As requested by you some time back, I now send a short account of the working of the self-hiver I made, and which you described in the *B.B.J.* in the spring. The first swarm from a hive with the hiver on came out, and after flying around the hive for a little time, settled on a currant-bush. After hiving them in the usual way, I put them into a frame hive in the evening, and found the queen with the bees. I therefore examined the hive to see how the queen had escaped, and found a crack in the floor-board of the skep a quarter of an inch wide, so no doubt the queen got out there. A few days later swarm No. 2 came off, and after settling on the same bush for a time, left it and went back to the hive. The next day they did the same thing over again; I then cut a large hole in front of the hiver, and fastened on it above the cones a piece of perforated zinc, and I made a larger entrance to front of the skep surmounting the hiver, thus giving more light at the top. The day following the swarm again issued, and this time the hiver was a complete success, the swarm (over four pounds in weight) hiving itself beautifully. A few days later I had two swarms out at the same time, one from a stock with a hiver on, the other from a hive without. Both swarms went together and made up a very strong lot. I afterwards found in the empty skep, set as usual above the hiver, the queen deserted—of course, by her own bees, which had joined the other swarm. The next swarm was caught in the hiver all right, and as I only keep five stocks in straw skeps for swarming purposes, I had no further chance of trying it this year. You see by this that it was fairly successful, and I think I can see how to make it still better for another year. I thought that we should have had plenty of reports of the working of different self-hivers in the *Journal* this year, but except for a few words about them now and then by Mr. Bodley, no one seems to have a word to say about them. I hope, however, we shall have one brought out that can be depended on for doing its work right. A real self-hiver would be a great boon to working men who, like myself, are away from home just at swarming-time.—H. ROWELL HOOK, *Hants.*

ADVERTISING BEE SHOWS.

[1209.] I think it would be well if an advertisement was inserted in the *British Bee Journal* whenever and wherever exhibitions of bee-appliances and manipulations with live bees take place. Take my own case. Now that I have commenced bee-keeping I am anxious to learn all I can, and should like to attend shows where I can get practical information, if within my reach. I heard I should have an opportunity of seeing bees at the agricultural show at Redhill, and therefore attended the show, only to find that nothing of the kind was intended. I also read in "Bee Shows to Come," in your pages, of a show of honey at the Co-operative Festival at the Crystal Palace, nothing being said of bee lectures and manipulation. Afterwards, in your report of the show, I saw that both lectures and demonstrations with living bees were given at the Palace. Had I known of this beforehand I should certainly have been there. Finally, at the recent Dairy Show I thought that along with honey might be a show of bees. I went; result, disappointed. In view of all these uncertainties I venture to think that it would not only pay well, but save loss of time, money and trouble to your readers, if the particulars I have mentioned were announced in the advertisements.—E. W. WALFORD.

A SCOTCH REPORT.

[1210.] I have much pleasure in telling you what bees can do in this district in the way of honey-gathering in a wet year. I took the advice of "Useful Hints," and invested 2*s.* in Naphthol Beta and Naphthaline, which my doctor made up according to your directions. I put the syrup into wide-mouthed rock bottles holding about eight pounds. Over the mouth of these I tied one fold of pack-sheet, put them on the hives about midway, and took them off the last week of June. A few days afterwards crates were put on. The results from five hives were as follows:—236 sections, which I sold at 1*s.* per section; forty partially sealed, which I could not sell, although they weighed thirteen ounces each, which I am enjoying, as they are wholly filled with heather honey; and thirty which I gave to the bees to clean out. Of the five hives, eighty finished sections was the highest, and twenty-eight the lowest.

I should have done better had I not given so many sections, but I was greatly bothered with swarming in the last week of July, consequently I packed on sections above and behind the brood chamber; but, on the whole, I am highly elated. My neighbour has not taken an ounce of honey this year, and his bees are only fifty yards distant from mine, which clearly shows bees must have attention. From parties in the district I have got eight lots of driven bees with which I have made four good stocks. I am very glad to remember the day that I casually noticed the address of the *British Bee Journal*. I have always been inclined to send honey to a bee show, but am frightened I would get no prize. After seeing honey show at the Highland Agricultural at Inverness, I have made up my mind to try next year, if spared.—ALEX. STRATHDEE, *Ballindalloch, October 29th.*

THE HEATHER SEASON IN DURHAM.

[1211.] The following is a report of the heather season at Burn Hill, a small wayside station, fourteen or fifteen miles north-west of the city of Durham. If you think it is of sufficient interest to merit publication you are welcome to it, or to any other information which I am able to give.

REPORT.

The heather season has been very moderate with us, six or seven days being all the time in which any honey was gathered—that is, real honey days. The rest of the season has been mainly of cold, bleak days, with a fine one now and again, though of little value to the bees, the nights being too cold for the secretion of nectar. The heather has bloomed only moderately, owing to the cold, wet summer, which has stunted its growth. Many hives brought to our place for the season from different parts of the county of Durham have gone home much lighter than they came—some a little heavier, the little honey gathered being stored below. Even the honey in the sections has in some cases been carried down. Bee-keepers in this county who have heather honey to sell will be few and far between. The season here is practically over, and all that can be done now is to make the bees secure for winter, if not already done, and hope for a better season next year. I may say that nine hives died out of 160 located here. for the season, which is below the average. This may seem strange, but can be easily explained.—J. L. DENT, *Burn Hill.*

THE BEE SEASON IN YORKSHIRE.

[1212.] The bee season of 1892 being now at an end, I forward report, which may be taken as about an average one for this district. The bees turned out moderately strong in the spring, working first on the coltsfoot, palm, and anemones. They bred up fairly well, and I took a little dark honey early (from the sycamore probably), very thick and of good flavour, as I did in a similar bad season some years ago. In May our hives began to get crowded, with just enough honey coming in to keep the bees breeding. In June we had a few swarms, but no surplus honey. In July more swarms, and took a small quantity of honey of very poor quality. Soon after this I had to feed some of my stocks before they were taken to the heather. Four of us joined in going to the moors, taking fourteen hives on August 6th, and twelve on August 10th—twenty-six in all. The heather was nicely out on the 10th, and, with fairly good weather, we let them stop on the moor for forty-six days. I put down thirty days as fine, though some were windy. The highest temperature (August 20th) was 82° in the shade, and the lowest (September 3rd) 54°. There were six rainy days, and ten bad bee-days. Still, with hives in prime condition, one might have expected fair progress; but my six skeps lost from three to nine pounds each in weight, and from a third to half of their bees, one having to be united, it having no honey and a mere handful of bees. My seven frame hives had done a little better: all of them got a nice bit in the brood nest, and some a sprinkling in the supers; but, with the exception of one (Carniolan-Ligurian hybrids), all were considerably reduced in bees. I have not taken a single section this season, and am afraid that when balanced up I shall be on the wrong side of the hedge. My bees have done better on the moor in worse weather. Last year it was surprising what honey they picked up between the showers in June and July; but it seems as if there was little honey in the heather this season, otherwise the weather has not been so bad as to prevent the bees gathering it. I am still feeding, and bees are inclined to rob, but are not savage. We have had numbers of queen-wasps about.—STRATAGEM, *Harrogate.*

VINEGAR AS A STING-REMEDY.

[1213.] Have any of your readers ever tried vinegar as a sting-remedy? I have used it for a considerable time upon the advice of a cottager, who has given it about twenty years' successful trial. I first saw the effect of its use in the case of a colony fairly "up," when one of the party was badly stung about the face, eyes, ears, and hands. A little common vinegar was used to bathe the parts stung, and almost immediate relief thereby obtained. The swelling, which would otherwise have followed, was checked, and in about half an hour the individual in question had regained also his usual colour.

I suppose vinegar, being an acid, acts somewhat on the homœopathic principle, as I have witnessed the same effect on several and differently constituted persons.

Honey or moistened tobacco is a fairly good thing to lessen the irritation; but with me it never prevents a swelling from having its course, *i.e.*, about three days. I cannot say anything about vinegar as a sting-*preventive*, for I never use such a thing.—E. A. FARTHING, *October 24th*, 1892.

HONEY SHOW AT CRANLEIGH.

An exhibition of honey was held in connexion with the Cranleigh Agricultural Association, on October 26th, in the old pavilion.

Of late years great progress in bee-keeping has been made in Cranleigh, and the effects of this was seen in the improvement of the quality of the exhibits in the honey classes at the above show. When the proposed district Bee-keepers' Association is formed for Cranleigh this branch of rural industry will be still further developed. Mrs. Maclear and Mr. J. Charlwood are acting as secretaries in the formation of the proposed Association.

There were three classes: 1, for run honey; 2, for comb honey; 3, general exhibits, all of which were well represented. Captain Campbell acted as judge, and made the following awards:—Honey in comb: Mrs. Maclear; commended, Miss A. Trussler. Run honey: G. Farnfield, jun.; highly commended, H. Steadman; commended, J. Charlwood. General exhibit: H. Steadman; commended, J. Charlwood.—*Communicated.*

Queries and Replies.

[673.] *Beginning Bee-keeping.*—1. Will you kindly tell me what sort of bee the enclosed is? I commenced bee-keeping in the spring, having bought a skep, with bees of a similar kind. They swarmed in May and went "over the hills and far away," but I got from them a very strong second swarm—it was equal to a good first swarm. That was hived all right, worked well during the summer, and I believe both the skep in which they were hived and its straw supers are well filled. I have refrained from taking any honey because, being only a novice, I have left it for them to winter on. I intend going in for a good-sized apiary, as I am living here on the south side of the White hills, in the midst of what I believe is a splendid country for bees. I have followed the advice given in *Modern Bee-keeping*, and commenced with one skep. During the summer I have been watching the bees carefully, and reading all the information I can get. Both the original stock and cast are in skeps, but I intend next season discarding these and working frame hives. I have covered my skeps up with sacks to keep them warm. 2. Can I do anything more now?—E. W. W., *Bletchingley, October 24th.*

Reply.—1. Bee sent has a trace of Carniolan blood, but nothing worth notice. 2. Beyond taking measures to keep the skeps dry, nothing more need be done unless you choose to put a small quantity of naphthaline on the floor-board of each hive as a precaution. We might also express a hope that you will not carry out your intention of "going in for a good-sized apiary" until such time as you have learned to manage bees properly. To do otherwise is to court failure.

[674.] *Bees Killing Each Other.*—1. There has been great excitement in one of my hives this morning. From eleven to one, in hot sunshine, they have been crowding outside, killing each other; the ground strewed for several yards with dead and dying. What can be the reason? 2. Would it hurt bees to have their hive painted while they are in it, if it can be managed? 3. All my sugar boiled for candy went back to sugar. Will the bees eat it, and will it be good for them?—L. B.

Reply.—1. It is impossible for us to say why the bees are killing each other without some information to guide us. It may be a case of robbing, but we cannot give any definite opinion without fuller particulars. 2. No. 3. The sugar may be reboiled for use in spring.

REVIEW OF CONTINENTAL BEE-PAPERS.

By J. Dennler.

Die Biene (Hesse) publishes an article about sugar as a winter food, in which it is stated that bees winter well on sugar alone, until the brood-rearing commences in spring. Given in small doses the sugar is consumed very regularly by the bees. But as soon as brood-rearing commences, as they have to change a larger quantity of cane sugar into grape sugar, their powers are not sufficient for this double work. Also as the queen continues laying regularly, the brood suffers and is badly nourished. With reserve combs, this eventuality is not to be feared; not only does the pollen in these combs come in useful, but also the honey allows the bees not to occupy themselves entirely in transforming cane sugar, but to pursue their other occupation; they remain lively and vigorous and the colony is much healthier. Therefore, to secure good results, some sealed combs should be placed at the top of the hive, the bees can then be given some cane sugar until March or even later, so that in spring they can feed on honey from the comb, which could also be withheld until this time.

Leipziger Bienenzeitung. Editor, Liedloff.—To the question, "When does a young queen begin to lay?" Dr. Dzierzon replies, "The exact time is difficult to state, for several causes can accelerate or considerably retard it. For example, I have had queens which had already commenced to lay 48 hours after their fecundation; others waited three, four, or even more days. One case still more curious happened in my apiary: A young queen fecundated in the month of August did not begin to lay until late in spring of the following year, but she turned out to be wonderfully prolific."

Deutsche Illustrierte Bienenzeitung.—Editor, C. T. H. Gravenhorst. Tenth year.—M. Warnstorf, pastor at Buslar, near Damnitz, Prussia, has succeeded in making artificial combs, whose cells (being on one side only) have the length of natural-comb cells, and weigh only double that of comb foundation at present made. These combs, which are on the Koerbs principle with natural-sized cells, cost four marks (four shillings) a kilo. In Austria M. F. Steigel de Pernersdorf has constructed combs of tin, which after being dipped in liquid wax, very nearly resemble natural combs. The bees fill them with honey but will not use them for brood-rearing.

Frukers Rundschau (Weixelberg, Austria), indicates amongst other causes of diarrhœa, late and irrational feeding. Many bee-keepers do not

appear to attach sufficient importance to the instructions, that colonies should be supplied with sufficient provisions by the beginning of October, and that in all cases the feeding should be rapid and in large doses at a time. Slow feeding induces the queen to renew laying; bad weather comes before the young bees have been able to make their first flight, which is also their cleansing flight, and they will be obliged to void their fæces in the hive, and thus frequently a colony is lost. The year 1888 proved the importance of this rule. Up to the 28th October, the weather was mild and all the colonies fed late had a large quantity of brood. After this date winter set in suddenly and was long and severe, and in the spring of the following year nearly all the colonies suffered from diarrhœa. The young bees hatched during the winter, and, deprived of their first flight, were the direct cause of this fatality amongst the colonies.

Oestz-Ung. Bienenzeitung. Editor, P. Schachinger.—*Adulteration of Comb Foundation.*—Ceresin can be detected in comb foundation by submitting it to the action of sunlight. It is well known that after a few days' exposure to sunlight pure wax is bleached if it is moistened from time to time with water, but this does not happen with the other substance, which remains yellow. Another process: Melt a piece of comb foundation in a vessel and pour a spoonful of water containing a little soda in solution. If the foundation is of pure wax this will be transformed into soap; on the other hand if not pure, notwithstanding the stirring, only an oily mass will be the result.

El Colmenero espanol. First year. Editor' Enrique de Mercader Belloch.—According to statistics recently published by the Direction Generale de l'Institut Geographique, the number of hives in Spain reaches 776,404. Of the 39 provinces comprised in these statistics, Huelva possesses the largest number, 103,990. Caceras comes next with 100,000 hives. The province of Alicante has only 280. The provinces of Alara, Baleares, Barcelona, Castellon, Guipuzcoa, Lerida, Lugo, Navarra, Oviedo, and Vizcuya, have not made returns of their apiculture. It may be assumed that including these provinces the total number of hives in Spain will be over 800,000. Bee-keeping in movable-comb hives is little known. At present the only movable-comb hives introduced and used are the Cowan, Layens and Dadant.

Bee Shows to Come.

November 2nd, 3rd, and 4th.—Hants and Isle of Wight B.K.A. at Portsmouth. Classes open to the United Kingdom. Entrance free for single section of honey in comb and for single jar of extracted honey.

November 10th.—Autumn show of the Essex B.K.A., in the Corn Exchange, Chelmsford. Sixteen classes for honey and wax, open to members of the Essex B.K.A. only. Separate classes for members, amateurs, and cottagers. For schedules apply to Mr. E. H. Meggy, Hon. Secretary, Chelmsford. Entries close November 5th.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. D. (Argyleshire).—*Driven Bees Refusing Syrup—Foul Brood Remedies.*—It is quite common for driven bees to refuse syrup in quantity offered them so late as the end of October; besides you do not say if the bees of the "six driven hives" have had ready-built combs or full sheets of foundation given them, or have been housed in empty hives. In any case the syrup should have been offered to them *warm* in a rapid feeder holding a gallon or so. As, however, they refuse syrup, the only resource is soft candy, which we do not make or sell as you suppose, but which may be had from any dealer. For particulars of foul-brood preventives refer to advertisement on second page. Naphthaline is not used in bee-food, but on the floor-boards of hives as a preventive of foul brood.

J. Mossop.—Bees sent are mixed hybrids; they have evidently Ligurian, Carniolan, as well as native blood in them.

Honey Bee (Somerset).—*The Relations of Bees to Flowering Plants*, by F. R. Cheshire (London, 1880), will answer your purpose.

Percy Leigh (Stoke Prior, Bromsgrove).—Thanks for cutting sent, which we have utilised on another page. The second one, referring to bees gathering honey all the year round, is an old canard which went the round of the papers a few years ago.

W. A. G. (Trewyn).—Honey sent is perfectly wholesome, of good consistency, and not bad flavour; its dark shade is probably owing to its admixture with nectar from the common bramble (or blackberry); so far as we can judge it is an admixture of clover, lime, and blackberry honeys.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE
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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

THE WORLD'S FAIR AT CHICAGO.—The prospects of a good and thoroughly representative "British Exhibit" of honey being got together for the big show at Chicago are, we note, to receive a further impetus in the shape of a competition, to be held in London shortly, in which every bee-keeper in the kingdom who possesses—or who can purchase—five pounds of honey will have an opportunity of taking part. The prizes are substantial ones, well worth competing for; no entrance fee is charged; the honey sent may be either liquid or granulated, and, with a little care in packing, it will travel safely at a trifling cost by parcels post to the office of the *B. J.*, 17 King William Street, Strand, W.C. After arrival there, it will be dealt with by the Committee of the B. B. K. A., who, we believe, purpose inviting the assistance of five judges to make the awards, among them being gentlemen who have officiated in the same capacity at various important shows during the past season. Until the full details are arranged, we cannot do more than invite attention to the announcement made on another page, beyond saying that prompt action is needed owing to the short time allowed for deciding on the dimensions the British exhibit will assume. At present a little over forty donations of honey have been promised or sent, but it is hoped that this number will be doubled at least; hence the desirability of bee-keepers promptly making an entry to the proposed competition—"show" it cannot well be termed, though it is intended that the exhibits shall be on public view for two days after the awards are made, in some suitable place in London, and of which due notice will be given in the *B. J.* and *Record*.

The British Commissioners have evinced a very encouraging amount of interest in the effort now being made to have our industry suitably represented at Chicago, and are giving favourable consideration to the various points placed before them in the interests of British bee-keepers. It therefore only remains for the latter to show the same spirit in the direction referred to, and success is assured.

The Secretary of the B. B. K. A., Mr. Huckle, has now returned to Kings Langley, where notice of entries should be sent without delay.

MORE CRITICISM.—A correspondent, signing himself "Man of Kent," writes us on what he calls "Things in General," a subject one would expect to be interesting to every one. He commences with the "Englishman's grumble," and of this not over-cheerful beginning we have no right to complain, except to express regret that the "grumble" continues all through the letter. However, we print his communication below, though it is not easy to see what good purpose will be served by its insertion. He says:—

"As the honey season is now over, and most of the *etceteras* cleaned up and put away for another year, I thought I would give my experience for the past season. I will commence with the Englishman's grumble, the weather. If we had only had the weather as described by Mr. 'Useful Hints,' it would have made a considerable difference to my take of honey. Throughout the season, on no single occasion has the weather at my place been anything like it has been represented, and I live only about a dozen miles away from 'U. H.,' whereas the writer of 'Notes by the Way' has given the weather almost as though the 'Notes' had been written here in Kent. On several occasions also I have read in the *B.B.J.* where some bee-keepers in the North have envied us our good bee-weather, but if they had been here they would have found it very similar to what they had got at home. I don't complain of my 'take' of honey, which is an average of forty pounds per hive from a dozen stocks; but didn't I get some *black stuff* to finish up with? Referring to the colour of honey, there is no accounting for people's fancies. I sold all my

dark sections to a dealer at full price for a lady, who said it was most delicious stuff, whereas last year I nearly lost a good customer through some of this black stuff.

"Regarding the correspondence in the *Journal* at the present time as to the naming of different honeys, in my opinion it is a farce to call it either whitethorn honey, cherry honey, clover honey, and the like, as, at the same time that bees are working on these particular blooms, they are equally busy upon lots of other flowers.

"I think there must be a great difference in certain districts as regards the amount of honey collected from various flowers. For instance, I don't think our hive bees collect anything from the limes in this neighbourhood, for, when passing under trees that have been one continual 'hum,' I have watched for our little favourites, but where I have seen one hive bee there has been at least a score of humble-bees and flies, and the same with the whitethorn and several other flowers that are called honey-producers in some districts. There is no mistake but what the bees from hives that were being fed during September paid due attention to the ivy, which was then in full bloom. They looked almost like wasps with their loads of yellow pollen. I think your correspondent who attributes the loss of condemned bees to the want of pollen must be under a mistake if the bees were being fed at any time during September, as, where is the district but where you will find ivy growing either upon trees or buildings that is sure to produce some bloom, and consequently pollen? Even to-day (October 15th, 1892) they are hard at it. The only time I have lost condemned bees has been when I have not given them enough syrup, and have tried to make it up with candy, and I have come to the conclusion never to feed with candy again. If they want feeding, it will be syrup with me. I fed up several lots this year, and I have given them about twenty-five pounds of sugar each, made into syrup. My opinion about candy is that, when fed to the bees during the winter months, it causes the bees to leave the hive in search of water, never to return.

"*Re-queening.*—I quite agree with what is written in 'Cobs and Kernels' (p. 382), that some of us do not pay enough attention to removing queens when they show signs of decay, and I find it is useless to wait, thinking the bees will dethrone her majesty and raise a successor. I did think that I had got a case this last spring, but it was only false hopes; a little spurt and then she died, leaving the hive queenless and broodless, and when I gave them a frame of brood with a ripe queen-cell upon it out of another hive they set to work and turned out both bees and brood, and that finished that hive up. I wanted to have re-queened a few hives this autumn, as I had got some young queens from condemned bees, but in all the hives that I tried to catch her majesty, the bees were so awfully vicious that I gave it up for a bad job. I had no difficulty in taking the sections off, but as soon as I attempted to take a frame out of the body of a hive, they did sting and no mistake, and took no more notice of smoke than as though I had not given them any. I shall now let them stand over until spring, and then have another try.

"I was highly amused to see your esteemed correspondent, Mr. Woodley, posing as an authority on foul brood. If my recollection serves me rightly, he has said that he has never had it, and how he can feel competent to advise other people upon the subject seems a puzzle to me.

"Whilst on the subject of foul brood I should like to mention a little incident that occurred at a neighbouring flower show. The judge in the honey classes was heard to say to an exhibitor that he should like to have a look at his bees, as he was sure that he had got foul brood from the look of the beeswax he was exhibiting. There's another poser. I haven't learnt that bit yet, and I have had my share of foul brood, and wouldn't like to say that there is not some lurking about now, although I have always taken precautions against it.

"I cannot quite follow some of your advice to correspondents on this subject, when you tell them that there cannot be much done as regards a cure at this season of the year. My experience is that the autumn and spring are the best times to deal with it, by the aid of feeding with medicated food and the use of disinfectants in the hives when there is no brood. You give them a fair start when honey does come, whereas, if you stop until honey is coming, and there is brood in the hive, the only way to deal with them is to turn them out and put them into a clean hive on foundation and feed them for a while on medicated food.

"And now, Mr. Editor, I won't trespass any further this time, although I have a little more to say yet."

Why our correspondent should see things in so entirely different a light from that in which they are viewed by every one else is not for us to say, but we would, with all respect, venture to ask if it is worth while trying to prove that what others have quite honestly and sincerely declared to be white is all the time very black indeed? To describe the weather of the past season in the county of Kent as "very similar" to what has been experienced in the North is enough to make dwellers in *our* part of Kent rub their eyes and wonder if they have been asleep. Probably bee-keepers in the North will wistfully glance at the average of forty pounds per hive from twelve stocks obtained this year by "Man of Kent," and devoutly wish that their bad weather had been "similar" to his. But our correspondent does not stop here. Among other things he says (*a*), "I don't think

our hive bees collect anything from limes in this neighbourhood;" (*b*) that candy-feeding in winter is a mistake and does harm; (*c*) that while readers complain of their black honey got this fall being unsaleable and almost worthless, he is able to sell his "black stuff" to a dealer at "full price;" (*d*) that bees gather such "loads of yellow pollen" from ivy in autumn that they look "almost like wasps." He is "amused" at Mr. Woodley "posing" as an authority on foul brood; calls the naming of different varieties of honey "a farce;" is "down" on judges at shows, and, finally, does not agree with "some of our advice to correspondents." Without entering into any discussion whether "Man of Kent" is right or wrong in his assumption, we think that he will admit that communications such as his are not cheerful reading. Moreover, if the opinions expressed therein were accepted as authoritative or weighty, they would tend to lessen confidence in editorial teaching to a degree not warranted by facts. We make no claim to infallibility, and do not object to fair criticism; but, as has been observed before in our pages, there must be a wide distinction drawn between the opinions of correspondents who write like "Man of Kent" and those given under editorial responsibility.

TWO QUEENS IN ONE HIVE—THE "WELLS" SYSTEM.—Very different indeed in tone and spirit is the communication which appears on p. 438 from Mr. Wells—though he also is located in Kent—and we commend to the careful consideration of our readers the results obtained from five hives worked on the double-queen system as described therein. An average of 158 pounds per hive should satisfy most folks, and the yield of an equal number of hives worked on the ordinary or single-queen plan alongside the others are most valuable for the purpose of comparing the two systems.

A good deal has been said in our pages and elsewhere as to the "Wells plan" being "nothing new," "tried and found wanting years ago," &c.; but we would ask such critics of the double-queen plan—*as worked by Mr. Wells himself*—if they have any fault to find with the *results* obtained in so moderate a season as that of 1892? That is the *crux* of the whole question, and what we have consistently done throughout the discussion on the merits or demerits of the Wells system has been to try and prevent correspondents from working in ideas or schemes of their own along with those of Mr. Wells, thus confusing the issue altogether.

There is no ambiguity about the language used by the gentleman whose name has become connected with the two queens in one hive plan during the last year or so. Mr. Wells is evidently a careful and accurate bee-keeper, and his results are not given in a haphazard way, as some are, but are calculated on business lines. Nor can any reasonable man complain of the language in which the details are given of the way in which the work has been carried out. Therefore, if any reader, sufficiently impressed with the method of working bees referred to, desires to try the plan, we do hope he will either follow it out strictly on the lines laid down by Mr. Wells himself, or, should disappointment or failure follow through deviation therefrom, it may not be set down as a failure of the "Wells" system.

BRITISH BEE-KEEPERS' ASSOCIATION.

CHICAGO EXHIBITION.

The sub-committee appointed by the Committee of the B.B.K.A. have decided to hold a competition, and offer prizes for extracted honey, both liquid and granulated, as follows:—

Class A. For the best five 1-lb. jars extracted honey—1st prize, silver medal and 20*s.*; 2nd prize, bronze medal and 10*s.*; 3rd prize, certificate and 5*s.*

Class B. For the best five 1-lb. jars granulated extracted honey—1st prize, silver medal and 20*s.*; 2nd prize, bronze medal and 10*s.*; 3rd prize, certificate and 5*s.* Certificates will also be given to each of the four next best exhibits to those winning the above prizes.

Exhibitors are requested to notify their intention to compete, at once, to the Secretary, Mr. John Huckle, Kings Langley. No entry fees will be charged, the honey to become the property of the B.B.K.A. for the purpose of the above exhibition. A list of the exhibitors will be sent with the exhibit to Chicago, and a printed copy of the same supplied to each competitor.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of October, 1892, was 4836*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

TWO QUEENS IN A HIVE.

THE WELLS SYSTEM.

[1214.] It will perhaps be remembered that I some time ago promised to give an account of my bee-doings for the season of 1892, and in this connexion it may also be recollected that I have stated in your columns that one queen only in each hive was a thing of the past with me in my apiary. Since then, however, many valuable suggestions have been given to me from bee-keepers, experienced and otherwise, which caused me to deviate somewhat from that decision, not for my own information—because that was a thing quite settled in my mind—but for the information of others. In the commencement of the season I was prepared and intended to work my ten double-queened stocks through the honey season of 1892, but in order to compare results and make the matter as plain as possible I decided to change my plan, and work five double and five single-queened stocks through the season, and very carefully note results. It perhaps will not be out of place just to say once more that the double stocks have two queens in each, divided in centre of hive with the thin wood perforated dummy, so that neither queen nor bees can pass beyond their own part of the hive; but at supering-time a sheet of queen-excluder zinc is placed on top of frames, and on this the super, into which both lots of bees are allowed to run and mix together as they please. In working them I may say that I have done my very best with both double and single-queened stocks.

Most of my hives hold fourteen standard frames, though I consider a hive of this size is not large enough for the two queens, and so, when more room is wanted for brood, I put a box of shallow frames, with a thin, solid dummy in centre, exactly over the perforated one below. This I thought would give plenty of breeding-room, and I wished to prevent swarming as much as possible. I have not, however, made a success of that part of the business yet, as three of my double stocks cast off very large swarms. I weighed one of these swarms, and there was in it a good bit over fourteen pounds of bees. This swarming was not all loss, as the combs and brood of the standard frames in each hive were divided and made up into nine nuclei, with three frames each. These built up to nine very strong colonies, which have enabled me to make up my five single stocks into double ones, besides replacing four queens which have already gone through two full seasons' work. The hives from which the swarms came off were—after removal of the brood combs—prepared for the swarms to be returned by filling the standard bodies with frames, some of empty combs and others with full sheets of foundation. Above these were set the boxes of shallow brood combs, and all supers just as they stood before swarming. This done, the swarms were in each case returned, and in less than an hour from the time it came off the swarm was back in the hive and apparently working away in the super harder than ever. I had intended to weigh all honey taken from each hive separately, but could not spare time for that, so had to content myself by carefully counting the combs taken from the single hives and extracting the lot. I also counted the sections taken from the latter, and of course whatever remained over came from the double-queened stocks. I estimated the weight of honey taken from each single hive by averaging the weight of all the combs containing honey, so that I might give to each stock the amount of credit it deserved. Any way, though I may be a little out in the amount yielded by single hives, the totals are correct. I propose distinguishing the five single hives thus:—

No. 1 gave 29 lbs. surplus extracted honey; No. 2 gave 37 lbs. surplus extracted; No. 3 gave 14 lbs. surplus extracted, besides yielding 27 lbs. in sections; No. 4 gave 46 lbs. surplus extracted; No. 5 gave 52 lbs. surplus extracted; being an average of 41 lbs. each. The five double hives gave 762 lbs. surplus extracted and 27 lbs. surplus sections, total, 789 lbs.; or a grand total from all the hives of 994 lbs.

Had there been one more pound it would have given an average of 158 pounds from each double-queened hive, as against forty-one pounds from each of the single ones. This, I think, ought to make very clear a comparison between the two systems. I have not yet extracted the wax, but I should think there will be about thirty pounds. My financial position with the bees this year stands thus: I have—

		£	s.	d.
940 lbs. extracted honey, say at 8*d.* lb.		31	6	8
54 „ comb „ „ 1*s.* „		2	14	0
30 „ wax..... „ 2*s.* „		3	0	0
		37	0	8
Total expenditure		5	1	10
Balance for labour, &c.....		31	18	10

In addition I have forty standard brood combs with more or less honey in them. These I keep for extending nucleus hives when they require more room, or for extra food for stocks if required in the spring. I have also 150 empty standard brood combs, and 150 shallow-brood combs for enlarging brood nests when required, besides about 400 shallow stock combs for extracting purposes; all these have

been piled up in surplus boxes, one upon the other, to a height of about fourteen feet, and the fumes of burning sulphur passing up through and round about them for over an hour. This fumigating is, of course, done out in the open air. The combs were then taken into the store-room and piled up one upon the other from floor to ceiling, this time with a sheet of newspaper and a lump of naphthaline placed between each crate. They will remain so until they are wanted next spring.

The take of honey this year is much below the average in this district, one reason for this being the preponderance of wet weather and so little sun; another reason is that we have had no white clover to speak of, and the sainfoin this year was grown about one mile from my apiary, instead of having about thirty acres of it close to, as in previous years.

I drove five skeps for a neighbour whose apiary is about a quarter of a mile away and nearer to the crop of sainfoin, and he told me he had taken but eight or nine pounds of honey from the lot, an average of less than two pounds per skep. For another neighbour whose apiary is close to the sainfoin, I drove ten skeps, and from these I calculate that he got from sixty to seventy pounds of honey, or an average of about seven pounds per skep.

Now, from the above, I think we must conclude that it pays very much better to work with two queens in one hive than to work with but a single queen in one hive, and enormously better than keeping bees in skeps. No doubt there is yet very much to be learned before reliable results can be stated. The above is my contribution to the general stock of knowledge, and I hope we shall hear of many of our bee-keeping friends trying the system and giving reports, so that we may live and learn from each other. I hope to be able to attend the Annual General Meeting of the B.B.K.A., and to hear something said upon the subject. I shall be very pleased myself to answer any questions put at the meeting or previously through your columns. It must, however, be understood that when I built my hives, I had no thought of working two queens in each, or I should have made them to hold twenty standard frames instead of fourteen; those who have hives that hold but ten frames or more, can use them for two queens by giving two stories for brood nest with the dummy in centre of each, and if one dummy is well perforated, the other one might be a solid board. If the combs run parallel with the entrance, of course there must be another entrance cut at the back, and if the frames run at right angles to entrance, it is best to put a division on the flight-board, and to extend up under porch, otherwise the two lots of strange bees might fight; but after both lots have been in the hive for three or four days the division-board under porch might be done away with. When I am raising two or more queens in one hive with entrance at right angles to the frames, I usually put a good-size division on flightboard and paint of different colour; but I have had them mate and return safely without any division whatever outside.—G. Wells, *Aylesford, Kent, October 31st*, 1892.

A STANDARD HONEY BOTTLE.

[1215.] I cannot agree with your correspondent (1195, p. 420) *re* this matter. I think the argument was not specially for full-sized bottles, but embraced the whole question of a "standard bottle," including shape and quality. Of course I, as an "admirer of high principles," certainly think that the question of short weight ought to be considered along with shape and quality, the latter, I consider, needing much improvement.

At the present time the size, pattern, and quality of honey bottles vary so much that we never know, when ordering, what will be supplied, whether 14, 16, or 18-ounce, good or bad quality, tall or short bottles, plain or beehive-pattern cap, round or octagonal; whereas, if a standard were adopted, it would be stocked by our dealers, and there would then be no difficulty in obtaining the right kind. The show committees would then have an idea how to word their schedules, the exhibitor know in what bottles to stage his honey, the judges have no unpleasant task of passing over good-quality honey on account of poor, unsightly bottles, and the dissatisfaction and discontent at some of our shows would then be somewhat lessened.

Your correspondent says: "The public will purchase that article which has the best exterior appearance, *irrespective of quality*" (my italics). I am surprised to hear this, and should like to know whether it is founded on fact or fiction. *I* find the public are very particular as to quality, as they could buy foreign honey, which would suit them equally as well as "English," if quality were no object; and, if so, why do the public always prefer English honey?

My experience is, the public will purchase that honey which is the purest (so far as their knowledge permits them to tell) and looks the neatest and cleanest, and it is our duty as honest bee-keepers to endeavour to lead them in the right paths, and cultivate their taste so that they may known what good honey should be.

I feel sure the bee-keeper who places his honey on the market in the most straightforward way, and in the purest, neatest, and cleanest fashion, will be able to take his stand against the one who practises his trade tricks (or, milder, "trade customs") of short weight and indifferent quality (the only recompense being pretty bottles), whether he be English or foreign, and the tale about being handicapped against the foreigner will end in a fable.

It now rests with the British Bee-keepers' Association to show British bee-keepers they are still alive to their necessities by giving this matter their careful attention.—H. Hill, *Derby, November 5th*, 1892.

BEE-KEEPING IN DEVONSHIRE.

[1216.] In the "Notices to Correspondents" on page 424 of *Bee Journal*, you inform "E. W." that "unfortunately there is now no county Association in Devon." This is, I believe, too true; but this is not the only absence. From what I have observed from time to time, there do not appear to be bees and bee-keepers sufficient in the county to maintain or to make it "worth the candle" to form an Association of the kind.

Not one of the many agricultural, horticultural, and cottage-garden societies—upon all of which bees have a claim—offers any encouragement to this branch of culture; and although the county Agricultural Association holds its show annually, it never has a place for honey. Nothing of the kind has been seen or heard of in the district since the Royal Show at Plymouth in 1890, and the enthusiasm then aroused has long since died a natural death. When some of these bodies include bee-keeping in their shows, a Bee-keepers' Association will soon become a necessity; until then, matters are bound to remain as they are.

There is everything conducive to intelligent bee-keeping. The county is almost entirely agricultural, and as such, one of the richest in England; its centre is all moorland, the remainder wooded and farm country. That a place like this is about the best spot for such a pursuit will appear patent to all. And so it is the best "bee-keeping" county extant, only it wants the bees and bee-keepers, like a pair of boots which only require the soles and uppers to make them complete. There are, however, a few scattered bee-keepers about—"skeptics;" they keep bees, but beyond this they do not care a "straw." To show the intelligence, to wit: At one place in-breeding has continued for years, that even passengers on the turnpike, about fifty yards from the hives, are liable at any moment to consider themselves "sat on," if I may use the phrase. Another bee-keeper of twenty years' *experience* has seen a queen twice during that time. Another keeps about twenty stocks in about twelve yards of ground, huddled together and supporting each other. These comprise, as a rule, the Devon bee-keepers. You may, however, take a day's drive in most directions and be spared the sight of any of these. No doubt there exist one or two intelligent bee-keepers who will agree with me that the quiet and primitive state of bee-keeping matters here is most "Exeterordinary." Anyhow, it is very different to the energy displayed in other counties, according to reports constantly appearing in the *B. J.*

Cornwall is, as far as I have seen, about on a "par" with Devon in this respect (there may, however, be bee-keepers at St. (H)Ives). That county is equally as fertile as our own, and possesses a much milder climate. There was held at Liskeard, the other day, the "Annual Honey Fair." I looked in the reports to see if there really were bee-keepers in that district; but the newspapers gave the political speeches on the agricultural outlook, &c., *verbatim*—nothing about the show and what brought the people there! This is bee-keeping in the two counties.

Eight months winter and four months wet constitutes the year in Devonshire. Exception proves the rule, for this year the summer has been the driest for many years, vegetation more or less parched, and consequently not a plentiful supply of honey. My average was thirty pounds extracted per hive. There have been none of the storms which bee-keepers in other districts experienced in the summer. The quality of the honey I consider very good, and up to the present time it has shown no signs of candying. I have seen no Aphidian honey complained of in some parts of the country. Foul brood also seems conspicuous by its absence. Maybe, the still barbarous use of sulphur has something to do with this. The weather since the end of September has been very cold and wet, but as I write the bees from all hives are crowding in with pollen.

Like Artemus Ward, I must "paws to remark" that, if it is desirable that this district should be represented at Chicago, I could procure honey from an establishment where they have for years had a large stock on hand—and there likely to remain. It looks like putty, and the sections are beautifully capped with propolis! But I do not think that any production sent from our or any other country could bear comparison to that of their own. It is well known that the Yankees simply "lick creation."—A "PIPE" FROM SOUTH DEVON, *October 28th*, 1892.

"THE SCIENCE OF BEE-KEEPING:" CRITICAL.—III.

[1217.] We come now to the point whether or not we have the pleasure of hailing Mr. Bois as a discoverer in the region of scientific bee-keeping—a discoverer of the fact that the bee does not use the combs on the skin of the hind legs in the collection of pollen, but uses them merely as a sort of filtering sieve through which is squeezed the little balls of pollen prepared in the more forward parts of its anatomy. I will not pronounce positively on this subject—emphatic statements weigh very little when arguing on purely scientific questions—and in taking this course I am humby trying to tread in the footprints of our great master, Charles Darwin, who, in most of his works, contents himself with giving his observations and the inferences he deduces from them, leaving the reader to speak conclusively.

I have again examined the pollen combs, and I fail to find such a passage as Mr. B. says exists up the backs of the combs; indeed, I obtain an idea of solidity and rigidity where we are positively and emphatically told there are spaces through which the pollen is squeezed, passing upwards as the shavings pass out of the

carpenter's plane. I fail to find them. If they are there, Mr. Bois has contributed to the science of the physiology of the bee a most important item. Again, the whole arrangement of the teeth of these combs is such as to lend an argument in favour of their use as combs and gatherers from hairs. To my mind, they would, and do, bend upon side pressure, and would close up if used as compressors. Instead of a final opening at the top of the skin, the whole structure seems to point to a stop and blockage against such a manipulation as we are told of. Lastly, Mr. Bois admits "the bee places the propolis with the centre legs *direct to the pollen baskets;* it on the other hand always carries the handful of prepared pollen between the compressors." *Why should it do this?* If the pollen be prepared and in pellets, why not store them away at once in the pollen baskets, as happens with the propolis? There needs no filtration, clearance of husks, or elimination of insects' eggs, &c.; that was already accomplished in the absurd operations of the mouth, according to Mr. Bois. Pollen compressors! *Cui bono?*

We get next to "Hints for Testing the System." I am glad at least to find the writer giving such a statement as this: "I have had the great advantage of dealing with a substance both visible and tangible. I allude to prepared or artificial pollen, and this has enabled me to present solid facts," &c. Now, this is as it should be; but, really, what sense can we make of such wrong use of terms? I thought "prepared pollen will always mean that pollen which has been mixed with the saliva of the bee," and now we have it confounded with lentil or pea-flour, of which the author prefers the former, as it can be more readily dissolved than pea-meal. Dissolved, forsooth! You are to avoid using skeps in giving artificial pollen, because some of the flour may get wet. Surely the galvanised bucket may get wet quite as easily as the skep!

There is a new idea given to us a little further on, that bees would leave untouched the earliest flowers if we did not create in them an inclination for pollen-gathering, and I cannot at all go with the writer when he says that "left to themselves they would only commence work on the earliest fruit bloom," but by proceeding as he directs you get the gathering of a large quantity of pollen from the daisy and the buttercup. The bees *here* are not left to themselves, and they do not bother the daisies and buttercups.

Now I want, right here, as our American cousins say, to take the reader back to the concluding paragraph on p. 391 of this series of articles on the "Science of Bee-keeping" (about which, that is science of bee-keeping, the writer has told us nothing, not even how he manages to keep 100 colonies from swarming, and extinguishes any inclination or desire to do so). He there tells us "it is a popular error that the bee rolls itself in the pollen and *comes back to the hive white as a miller*," and proceeds to lay this ghost of his own raising; but what is my surprise, a surprise accompanied by a gentle expletive, when I read on p. 407, "These lovely insects (Carniolans) will lie on their side or back among the shavings while working on the artificial pollen." This part is best left alone. The next sentence is also far and away above criticism: — "They are amongst the varieties having the whole of the pellet-forming apparatus strongly developed, thus enabling them to form enormous-sized pellets;" such ideas as this are richest when untouched, they are the strokes of an artist of genius.

I cannot get along. Next sentence:—"With the help of the key contained in the rules the reader can define exactly each movement .... and read them readily, however rapidly the bee may perform *its evolutions on the flowers and in the air.*" "He may likewise easily notice the bee loading the pollen store with dry pollen by means of its fore and centre legs, *and removing the same again with the tongue immediately it takes wing, transferring it to the mouth, from which it afterwards proceeds to the compressors.* What power of vision! The verification of easily testing the existence of the pollen passage by the use of a sixpenny lens, I confess my inability to perform, but I shall be truly glad, without an atom of sarcasm, if it can be discovered by others.

The concluding article of this diverting series of papers gives some interesting items about the fertilisation of plants by bees; the Cineraria is taken as an illustration (by Cheshire also) and the proceedings of papilionaceous flowers are described by both authors.

I would now like to be informed on a matter that has been in my mind all along, and that is, why, when all previous authors (some of them named and then summarily dealt with) have been groping along in the dark—why Mr. Cowan (whom I must mention gently, lest my motives be suspected and misconstrued) has been "let off?"—I mean "allowed to escape" the thongs so freely laid on Cheshire, Cook, and Root? According to Messrs. Cowan, Kirby, Shuckhard, Girdwoyn, and others, the function of the antennæ comb is to keep the antennæ clean, and on p. 35 it is truthfully said, "The operation may be frequently observed." And again, in describing the pollen combs, Mr. Cowan truthfully says, "These are used for scraping and collecting the pollen which has got amongst the body-hairs of the bee." We have seen them do this. But why, Mr. Bois, have you not attacked Mr. Cowan with your sweeping assertions?—R. A. H. GRIMSHAW.

EXPERT HELP.

[1218.] I should be pleased to help "E. W." (Devon) in a practical or any other way. I was able to assist your last applicant at Staverton, near Totnes. While writing I may say I have packed for winter twenty-two lots; busy on ivy, pollen going in all hives very freely to-day

(29th October). Honey-take below the average. No swarms myself; very few generally.—GEO. FREEMAN, *Curledge House, Paignton, S. Devon*.

KENT BEE-KEEPERS' ASSOCIATION.

The Council of this Aasociation met on the 29th ult. at its headquarters, the Horticultural College, Swanley, for the transaction of its ordinary business. The Rev. T. S. Curteis, rector of Sevenoaks, presided. Mr. Garratt, the honorary secretary, reported that the Hawkhurst Cottagers' Apiary Competition had been abandoned for this year through causes of a temporary kind, but there was no intention to give it up in the future. Six of the members had entered, but as two had subsequently withdrawn from it, the remaining four deemed it advisable to relinquish it. Although this decision was taken, a careful record was kept, and the following statement was prepared.

HAWKHURST APIARIES.

F. REED: Bar-frames, 3; skep, 1. Sections, 52; extracted, 137 lbs.; total, 189 lbs.; average, 47¼ lbs. *Remarks*: Skep gave 37 lbs. extracted from shallow frames; had to feed all slightly; all clean: no swarms; young queens in all hives except skep.

G. DEW: Bar-frames, 5; skep, 0. Sections, 104; extracted, 132 lbs.; total, 236 lbs.; average, 47¼ lbs. *Remarks:* One hive had foul brood in spring slightly and has it very little now, not bad enough to turn out; others clean when surplus frames were taken away; one swarm lost; condemned bees added to two stocks with young queens: fed up a little.

A. GLYNN: Bar-frames, 4; skep, 0. Sections, 114; extracted, 36 lbs.; total, 150 lbs.; average, 37½ lbs. *Remarks:* Nos. 2 and 3 hives were weak in spring and united on the "Wells" plan; has taken fifty-nine sections from them; left all frames in (fifteen); not had to feed at all except by giving back some dark sections; all apparently clean.

J. COLLINS: Bar-frames 3; skep, 0. Sections, 56; extracted, 71 lbs.; total, 127 lbs.; average, 42¼ lbs. *Remarks:* One had foul brood; others clean to all appearances and hives full of bees; had to feed up a little; the amount extracted (15 lbs.) from foul-broody hive is included with the other.

The bee-keepers in this district are mainly dependent upon white clover for their honey harvest, and as a considerable part of the period during which it blooms was very cold and wet, much credit is to be given to the skill and attention of the competitors for so satisfactory a result. Besides the pecuniary gain through the sale of the houey in a good home market, three out of the four were very successful exhibitors at the annual show of the Association held at Hawkhurst.

A letter from Mr. G. Wells was read, in which he gave an account of his apiary doings for the past season; showing the results under two systems of management, viz., the ordinary plan of working with one queen, and that under what is known now as the "Wells" system. The general result is a grand take of honey, and the establishment of the immense superiority of the latter over the former method; but as Mr. Wells intends shortly to publish a full statement of the working, the details are now reserved.

Another interesting and encouraging account was received from Miss Seelly, of Woodchurch, a cottager member of the Association, who from seven hives, worked on the doubling system with standard frames, extracted 450 lbs., averaging 64 lbs per hive; her take last year averaged 91 lbs. This is a white clover district only.

Another case was reported in the Farningham district of half a ton of honey gathered in an apiary under the management of a lady.

The gratifying announcement was made that the Kent County Council have provided a sum of 150*l.* for instruction in bee-keeping in the county for the ensuing year.

Mr. Garratt reported also that courses of technical instruction in bee-keeping had been given at Sittingbourne and Paddock Wood, and that arrangements were in course of formation for a course (without manipulations) to be given at Rochester shortly. Town Malling also was a probable centre for a course of instruction.

The Council was also informed that Mr. Chapman, of Wood Street, near Sittingbourne, was anxious to move in the suppression of foul brood, proposing that a local club or society should be formed, which by means of the members' contributions should provide for an inspector, and compensate at a reasonable rate the members whose bees were condemned. This action was warmly approved by the Council, but they considered that the formation of a branch of the Association *in* the district, and the adoption of *special* measures to cope with the disease, would be a *more* successful substitute.

The Chairman announced that he had, in accordance with a request made to him, ascertained that Lord Sackville, of Knole Park, Sevenoaks, would be pleased to accept the presidentship of the Association for the coming year; it was therefore agreed, upon the proposal of Mr. E. D. Till, that his Lordship be invited to occupy that position.

It was proposed by Mr. Badcock, and unanimously agreed to, that the annual exhibition of the Association for 1893 be held at Sevenoaks. It was considered that Sevenoaks would also be a suitable place for holding the annual general meeting in January next, but the final decision upon this point was deferred till the next meeting of the Council.

The finances of the Association, owing to the increased expenditure incurred chiefly in supplying the *Record* to the members free of charge, caused some anxiety; the cost of this alone being nearly 20*l.* a year.

At the conclusion of the business, the members present were kindly entertained to tea by Mr. and Mrs. Bond.

Queries and Replies.

[675.] *A Beginner's Queries.*—I am an amateur, having bought my first skep of bees about a fortnight ago. When I received them they had not been fed. I have since given them five pounds of pure cane sugar, two pints of water, one teaspoonful each of salt and vinegar, the whole boiled together for three or four minutes; but when cold, it turned crystallised. I have them in a straw skep, which is placed in a square box with top and bottom knocked out, well packed with chaff between skep and sides of box. On the top are placed three folded sacks, and over the top a piece of corrugated iron roofing—facing direct to west and a good thick hedge sheltering the back from the east. 1. Have I given the bees sufficient food, or how much should I give? 2. Was the syrup made properly? 3. Is the skep in a good position? 4. What books should I obtain in order to get a thorough knowledge of the management of bees? 5. Is the straw skep the simplest for me to use? 6. How should I drive them from a straw skep to another hive? 7. Should the syrup be given to them hot, warm, or cold? Any other information or advice you can give will be thankfully received by—H'BORO, *November 4th.*

REPLY.—1. A stock of bees at this season should not have less than twenty pounds of food in store. How nearly your stock approaches this weight we cannot say without lifting. 2. The syrup if properly made should not crystallise. 3. The packing of the skep for winter and the means used for protecting it from bad weather in winter are excellent. 4. You should at least read the *Bee-keeper's Guide-book*, price 1*s.* 8*d.*, post free, from this office. 5. Yes, the skep is the simplest form in which to keep bees, though it is by no means the best. 6. Full instructions will be found in the *Guide-book*. 7. Syrup in late autumn should be given just warm, not "hot."

[676.] *Growing Hops for Shade during Summer.*—I have been for a long time trying to get something for a shade and to shut in my apiary during the summer, and have been told hops grown on poles and trained in between would best answer the purpose. Will you please (living as you do in a hop county) tell me—1. Are they grown from seed or plants? 2. Would they be likely to succeed here? 3. At what time of the year are they sown or planted? 4. Where can they be bought ready for sowing or planting? Wild hops grow in abundance here, but none are cultivated.—W. W. LEY, *Stamford.*

REPLY.—1. From division of the "stool" or root. 2. The hop requires a strong loamy soil, such as that of Kent and Sussex, to grow it well. 3. In early spring. 4. Write to Messrs. Cannell, nurserymen, Swanley, Kent, who would no doubt give the desired information. Personally, we would prefer to use the tall-growing runner beans (scarlet runners) for shade such as you require.

DEATH OF A VETERAN BEE-KEEPER.

Bee-keepers in the county of Lancashire, among whom we were proud to include ourselves before travelling south a couple of years or so ago, will learn with regret that a very worthy member of the craft has passed from among us in the person of Mr. William Lyon, of Whiston, near Prescot. A bee-keeper of sixty years' experience, Mr. Lyon never got into that objectionable frame of mind which some old hands are apt to fall into, *i.e.*, that of thinking they know more than any one else. To the last he was a learner, and took the greatest interest in all improvements in the method of managing bees having any practical value.

The parents of Mr. Lyon came to Whiston from Cartmel, in North Lonsdale, early in the present century. They had four children, three sons and one daughter, all of whom predeceased William, the latter being born seventy-five years ago. He was by profession an engineer, and in that capacity earned for himself a comfortable competency for his declining years. In bee-keeping matters his enthusiasm knew no bounds, and it is not too much to say that he travelled thousands of miles to visit apiaries and exhibitions of which bees and honey formed a part. For a long series of years he was a familiar figure in the bee-tent, and his ready help was always at the disposal of any bee-keeper in a difficulty, while no place was too far away for him if any new development of the bee industry was to be seen at the end of a journey. Many of his trips were taken in company with the Rev. W. C. Cotton, formerly vicar of Frodsham, Cheshire, author of several works on apiculture. Mr. Lyon was also an early member of the B. B. K. A., and regularly attended the annual meetings in London until the formation of the Lancashire and Cheshire Association, in which he took the warmest interest quite up to the close of his life. Each year re-elected a member of the Committee, he was never absent from the meetings, though failing eyesight prevented him from doing much work amongst bees for the last three years or so of his life.

The local paper, in referring to his death, very truly says, "In every sense Mr. Lyon was a noted and respected inhabitant of Whiston, his fund of dry wit and humour, combined with intelligence, making him esteemed by all who knew him."

Our personal knowledge of him has mainly been connected with bees and bee-keeping, and in this connexion we know that he was a general favourite with all the bee-keepers with whom he came in contact. It may be truly said if he knew no good of a man he would speak no ill.

SCOTCH HONEY AT EARL'S COURT.

We learn that Mr. Wm. Kerr, Dargarvel, Dumfries, was awarded a silver medal for a neat and attractive collection of Scotch honey staged by him at the fruit show held in London on October 5th to 8th, in connexion with the great Horticultural Exhibition at Earl's Court.

REVIEW OF CONTINENTAL BEE-PAPERS.

By J. Dennler.

(*Concluded from page* 434.)

L'Abeille de l'Aisne. Editor, Laurent-Opin. First year.—This is a new publication of the Apicultural and Entomological Society of the Department of Aisne. The journal is to appear, at first, every two months, and will publish the proceedings of the monthly meetings of the members, the programme of courses of lectures, prices of honey and wax, and all discoveries that might interest the bee-keeper. The second part is reserved entirely for Agricultural Entomology. The first number publishes the statutes of the Society and the list of the members who are the founders of the Society. This Society has joined the Federation of French Bee-keepers' Societies, founded September, 1891.

Le Rucher Belge. Third year. Editor, Rev. A. Wathelet.—Publishes amongst other things, a discourse by Professor Kunnen, Professor in Luxembourg, who says respecting the races of bees that it is only throwing money out of the window to purchase Cyprian, Syrian, Egyptian, Palestine, or Tunisian bees, or those from Hymettus or Dalmatia. It is otherwise with Carniolan and Italian, which have qualities that often make them to be preferred to the common bee.

In an article entitled "The sort of wood to use for hives," T. Chardin remarks: 1st, That Canadian and Italian poplar, to the exclusion of that from Switzerland and Holland, lasts as long as pine, and is less apt to warp. 2nd, That poplar when planed on the inside is not propolised by the bees, and preserves its porosity. It has therefore all the advantages of straw without any of its disadvantages. 3rd, That being obtainable in great widths, it allows the sides of hives being made from one piece. In this way joints are avoided, which however well made, end by opening and are receptacles for wax-moth.

Bulletin de la Société d'Apiculture d'Alsace-Lorraine. Twentieth year. Editors, Dennler and Zwilling.—*Alpine Honey.*—For some time the Mulhouse papers have published attractive advertisements of honey made at Mulhouse, bearing the name of "Alpine herb honey." The manufacturer, M. Hild, ventures even to exhibit. According to his advertisements, he is supposed have obtained a gold medal in Paris at the "Marine Exhibition" there. This famous honey has just been analysed by Dr. Haenlé of Strasburg, and here is what he says: "Colour, yellowish brown; consistency, thick, syrupy; transparency, clear; odour, without any floral aroma; flavour, very little, slightly sweet; solubility, easily dissolved on the tongue; polarisation (1 + 2) Sol. Dub. = + 261°; polarisation after dialysis of 18 hours = +5°; dextrine, very abundant; the principal constituent of this product is glucose with the addition of a decoction of aromatic herbs. A quantitative analysis showed the presence of 80 per cent. of glucose. The product therefore cannot be called honey at all." *Naphthaline.*—As Naphthaline is an excellent preventive of foul brood, it is a good plan to put one or two pieces in all the hives situated in the neighbourhood, say within three kilometres of the apiary infected by this terrible disease.

Erratum.—In bottom par. on p. 433, *for* "Frukers" *read* "Imkers."

Notices to Correspondents and Inquirers.

Newtown (Newbury).—Honey sent is, we should say, an admixture of heather honey, honey dew, aud honey from the common bramble.

W. Dell, Leonard Smith, and Walter Debnam.—Your letters have been forwarded to the Secretary of the B. B. K. A. at Kings Langley.

A Bee-keeper (Berkswell). — *Moving Bees Twenty Miles by Road.*—If the bees are carefully packed, so as to allow ventilation, and a cold day chosen, they should travel quite safely on a furniture van.

John Smith (Perth).—A full description of the "W. B. C." hive, with illustrations, appears in our monthly, the *Record*, for March, 1890, which can be had, post free, for 2½*d.* in stamps. It has not been illustrated in the *B. J.*

Jno. Hepworth (Wakefield). — *Asphalte for Covering Frames.*—The objection to felt like that forwarded is, that the bees will worry themselves trying to get rid of the loose fibrous portions of the felt. The kind we prefer has a smooth surface, and is free from "stringiness."

W. H. Ley (Stamford).—A microscope sufficiently powerful for "showing the parts of the honey-bee to amuse your boys" may be had for about 10*s.* 6*d.* Beyond this you may go to almost any price for a good instrument. Write to Messrs. Newton, 3 Fleet Street, London.

R. W. Pett.—We had not lost sight of the reply sent to your query *re* foul brood, but the fact of our having given that reply formed no ground for dealing with your communication otherwise than as we did. What we do contend is that no person is able to detect foul brood with certainty unless the combs are fully open to proper inspection, and the case we quoted corroborates this view. No one is more desirous of suppressing foul brood than ourselves, but we can be no parties to reckless assertions by whomsoever made, and to cast aspersions right and left without very full proof indeed *is* reckless.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Chicago Exhibition.

The Chicago Exhibition Sub-Committee met at 17 King William Street, W.C., on the 12th inst. for the purpose of further considering the arrangements connected with the "British Exhibit" at the World's Fair. It was decided that contributions of honey for the competition announced in the *Bee Journal* of last week, will be received at 17 King William Street, W.C., up to December 1st. Donors are invited to send in any quantity of honey from five up to fifty pounds, the latter being the maximum quantity allowed to each exhibitor. It must be understood, however, that quality only, and not quantity, will be taken into account when judging. Particulars should be sent—along with the honey—of the locality in which it was gathered, and the probable source (or flowers) from whence the honey was obtained. It was stated at the meeting that several of those who had already promised donations of honey have written intimating their intention to increase the quantity they will send for Chicago, and it is expected that the full particulars, which will appear in next week's issue of the *Bee Journal*, will furnish a very encouraging account of success for the forthcoming competition, and for the undertaking generally, in which much interest has been aroused.

Some little doubt has been expressed by one or two correspondents as to the way in which American bee-keepers will regard an exhibit of British honey at Chicago, owing to the very small dimensions of the bee-keeping industry in this country compared with America. We have not shared in these misgivings, small though they be, feeling quite sure that bee-keepers on the other side of the Atlantic will be as glad to see a sample of British honey staged at their big show as our bee-keepers are to show them what is produced in the "Old Country" by British bees.

In *Gleanings* for November 1st, just to hand, the editor is good enough to reprint our article on "Packing Honey for Shows," which appeared in "Bee-papers for Winter Reading" some time ago, as being worth the consideration of exhibitors; and in another part of the same paper the British exhibit is thus referred to:—

"As will be seen in another column, the British bee-keepers have definitely arranged for an exhibit of British honey at the World's Fair. We may rest assured that our English cousins will make a fine exhibit. In their own country they excel us in honey and bee shows."

HUNTS BEE-KEEPERS' ASSOCIATION.

A meeting the Hunts Bee-keepers' Association was held at the "Fountain Hotel" on Saturday, Nov. 12th. Mr. A. W. Marshall presided, and there were also present Mrs. Allpress, Messrs. Allen (Godmanchester), Cook (Wistow), C. N. White, Z. Hobbs, W. H. Woods, and the Rev. C. G. Hill (Hon. Secretary). The Hon. Secretary said the Secretary of the British Bee-keepers' Association had informed him that the medals could not be forwarded for that meeting, as all the returns were not sent in, and it was the custom not to send out the medals until all the exhibitions were over. The Chairman remarked that at a meeting of the Technical Education Committee the other day 10*l.* was placed at the disposal of the Society for the Huntingdon district from the funds of the County Council.

After the distribution of the prizes Mr. White proposed, and Mr. Brown seconded, that application be made to the Agricultural Society to admit members of the Bee-keepers' Association to their annual show on payment of one shilling on producing their ticket of membership.

THE LAW RELATING TO BEES.

The following report of the Arundel bee case appeared in the *Southern Weekly* of October 15th last:—

"At the Arundel County Court on Tuesday, his Honour Judge Martineau delivered judgment in a case heard at the last court, in which a Mr. Arnold, of Burpham, sued a neighbour named Page for the value of bees and a box, into which a swarm of bees belonging to the latter had entered. The sum of five shillings had been paid into court as the value of the box.—His Honour, who reserved judgment on one or two points of law relating to bees, said that, so far as he understood, the defendant kept bees, and last spring one of his hives swarmed. He tried to hive them on his own premises, but was unsuccessful, and the swarm of bees flew away on to the plaintiff's premises. Defendant never lost sight of the swarm, which took possession of a box on plaintiff's premises in which bees had previously swarmed. Defendant endeavoured to get the bees out of the box, and in the end carried them off with the box or hive. Plaintiff asserted that defendant not only carried off the bees which were formerly in the box, but took the box with the swarm as well; and a point in dispute was whether, at the time the bees were carried away, the box contained, as alleged, bees belonging to the plaintiff. It was clear that they were not a regular swarm, if there were any there, or the young swarm would never have been able to get possession. The defendant had no right to take off the box, and the five shillings paid into court as its value, though the box was not, probably, worth more than that sum, was not sufficient, when they considered the gross trespass which had been committed by the carrying off of the plaintiff's property. There was nothing to justify defendant taking the box. On that point he would allow one shilling above the amount paid into court. He had considered the law relating to the possession of bees, but found that there were but few notes in the early books which dealt with the right of bees. If a man had a swarm of bees on his own property the bees were his property, and he was at liberty to follow them on to his neighbour's land providing he could keep in sight his own swarm of bees. He might go on his neighbour's land and get his own property. Whether he would be guilty of a species of trespass was not very material, but no jury would think a man justified in taking away another man's property in which the bees swarmed. The plaintiff said he had bees in the hive, but he never said that he had a collection or swarm. That was a question of fact. He (the Judge) was not satisfied in that instance that there was a collection or swarm of bees at the time the box was carried off. His own opinion was that, if there had been anything like a hive or swarm of bees in the plaintiff's hive, there would have been a battle—they would not have taken possession without a struggle. He would give the plaintiff six shillings for the box, and nothing in respect to the claim for bees alleged to have been in it previous to the defendant's swarm. He had found that the right to a man's bees was not very clearly stated. A man might have a hive on his own ground, and the swarm might go into a neighbour's garden and gather their store of honey and return to the hive; they were that man's property all the while. As long as they kept in the owner's sight they were his property, and might be identified. In the case of a young swarm on a man's land, the progeny was his, but he should say they ceased to be his when they got on to a neighbour's ground. They were simply wild."

[Referring to the above, it is not easy to reconcile the last portion of Judge Martineau's decision with what he had declared to be the law earlier on. He therein distinctly states that, if a man has a swarm of bees, they are his property, and "he was at liberty to follow his swarm on to his neighbour's land, providing he could keep in sight his own swarm of bees." This is the law, as we understand it, and is in substance the basis on which the decision was made, the judge admitting the right of the defendant to take away the swarm, but not the hive, or "box," into which the bees had gone, which undoubtedly belonged to the plaintiff. But when the learned judge, referring to the defendant, says the swarm "ceased to be his when they got on to a neighbour's ground—they were simply wild," we must confess our entire inability to comprehend the seeming contradiction. In nine cases out of ten, reports appearing in the papers on matters concerning bee-keeping betray an utter want of knowledge of the subject on the part of reporters, who have, we should hope, hardly done justice to the facts in the above case, or to the judge's observations thereon. There is much in the report that a bee-keeper could have straightened up and made clear which is at present very vague.—EDS.]

FLOATING BEE-HOUSES ON THE NILE.

In Lower Egypt, where the flower harvest is not so early by several weeks as in the upper districts of that country, the practice of transportation is carried on to a considerable extent. About the end of October the hives, after being collected together from different villages and conveyed up the Nile, marked and numbered by the individuals to whom they belong, are heaped pyramidically upon the boats prepared to receive them, which, floating gradually down the river and stopping at certain stages of their passage, remain there a longer or shorter time, according to the produce which is offered by the surrounding country. After travelling three months in this manner, the bees, having culled the perfume of the orange flowers of the Said, the essence of roses of the Faicum, the treasures of the Arabian jessamine, and a variety of flowers, are brought back about the beginning of February to the places from which they have

been carried. The productiveness of the flowers at each respective stage is ascertained by the gradual descent of the boats in the water, and which is probably noted by a scale of measurement. This industry produces for the Egyptians delicious honey and abundance of beeswax.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1219.] Since my last we have had weather characteristic of the season — heavy fogs day after day, with only one or two days on which we have had a few hours' sunshine; yet, with a mild temperature, the bees have been on the wing a little every day—at least, some of the more reckless ones. When about the apiary, I am often tempted to moralise on similitudes between the *genus apis* and the *genus homo*. I find so many points in common between the two. Some stocks of bees are quietly resting from their labours, while the next, perhaps better supplied with stores, are continually on the alert, and will take any mean advantage over weaker or less-guarded hives, and this restless activity is not confined to the usual hours in which the bulk of the stocks are on the wing, but early and late they are on the *qui vive*. This is one point I have noticed many times, but space forbids to mention others that crop up too fast for utterance.

I thank "Man of Kent" for turning the bullseye of his criticism on our sayings and doings; so that it reveals our weak points it answers a good purpose, and will help to keep us to the subject upon which we can speak with practical knowledge. I apologise for touching the foul-brood question, but its magnitude and the difficulty of dealing with so insidious a foe called forth my clarion cry, or (shall I say?) I hope my note has been as a beacon fire to call the clans together to fight our common enemy. I have tried to impress the necessity of *thoroughness* in all preventive measures, and, as this part of the field is where my duty lies (though, perhaps, our "Man of Kent" may say it is a self-imposed one), yet I feel it a duty incumbent on myself to carry the torch. Depend upon it, friend, that prevention is better than cure; and since I have appended my own name to my notes, instead of "Woodleigh," as formerly, I get a wide correspondence on all subjects connected with bee-culture, foul brood amongst the rest, so that, theoretically, I am fairly well posted.

What I have written has been *pro bono publico*, without reservation; my only regret has been that I have not had better advice to tender or a more facile or graphic style in which to convey my attempts to educate our less fortunate members and novices in the craft. Meanwhile I content myself with urging upon all who have the welfare of bee-keeping at heart to endeavour to secure unanimity in the application of preventive and sanitary means for the eradication of the foul-brood pest from our apiaries—nay, our islands, and may our efforts be crowned with success.

The thanks of bee-keepers are due to Mr. Wells for his lucid letter (1214, p. 438). One or two little points, however, I would thank him to clear up. He says he had ten double-queened hives in spring of 1892, that he ran five through the season with single queens, and five as double-queened hives; that his hives hold fourteen frames. Now, may I ask him if at the beginning of the season he removed one queen from each of the five hives and the separating dummy, and allowed the remaining queens the whole of the frames, or if he removed the queen and colony from one side of dummy of each of the five hives that he intended to run as single-queen colonies, and that the colonies had to build up from seven frames to ten frames? If so, this may account for the wide difference in output of single and double colonies; but if all the frames were left in, or the number reduced to ten frames, leaving the brood and bees only, and taking the four empty combs out, if this premise is right, it speaks forcibly in favour of Mr. Wells' system. The period he got his hives into shape for the season and the time of opening of honey season will all help one to judge of the merits of the system, because, if the single-queen colonies were disturbed only a short time before the honey-flow, that would militate against the single-queen colonies, as the two-queen colonies, not getting this disturbance, would keep breeding straight away, whereas the hives that had been disturbed to reduce them to the required single-queen condition must be retarded in breeding, and 10,000 bees, when honey is everywhere, will make a considerable addition to the income of a hive. I have a few twin hives holding some twenty-four frames that I intend running on Mr. Wells' system another season. All I shall have to do will be to take out the division-board and perforate the same, and lay on my sheet of zinc over the top of frames. This will enable me to verify the fact as to the absence of brace combs when zinc is used under the crates of sections. —W. WOODLEY, *World's End, Newbury*.

A GLIMPSE OF THE CUMBRIAN AND NORTHUMBRIAN BEE-KEEPERS.

[1220.] My holidays were spent this year in the lovely counties of Cumberland and Northumberland. Most of my time I was trying to lure the wily trout, but I had an opportunity now and then of a talk with the bee-keepers where I was staying.

I noticed a great many of the signalmen along the Furness Railway in Cumberland had taken to bee-keeping, and had frame hives which they sent up to the heather-clad hills around them. These are just the sort of men to make bee-keepers, as they can generally have their bits of garden near their box, and so have their bees close at hand in case of swarms, &c.

From conversation I had with one of these men, I found that they had been very much troubled with foul brood about there, which, with the plan in vogue of a number of bee-keepers taking their bees to the same place for the heather, is likely to spread.

At a quiet little village called Holmrook, on the River Irt, which runs out of Wastwater, the village smith, who lives in a model cottage with walls entirely covered with Virginia creeper (*Ampelopsis Vetchei*) and Gloire de Dijon roses, is a bee-keeper who has adopted frame hives. He had done fairly well this year with the early honey-flow, and had sent his bees to the hills, but I am afraid the heather would be a blank for him.

In Northumberland, I also spent a fortnight at the little village of Netherwitton, whilom Witton-by-the-Waters, a pretty out-of-the-world place with low picturesque cottages built of sandstone, many of which were covered with purple clematis, then in its full glory, roses and canariensis; its pretty little church, vicarage, and ancient hall; a rippling stream and extensive woods; acres of heather only a few miles distance. Not a bad place for a bee-keeper, and a bee-keeper it has got in the person of Mr. Fenwick, a master of our craft, whose perfectly gathered heather honey is sent regularly to some of the first Italian warehouses in London.

Mr. Fenwick had about a score of stocks, mostly hybrids, which were not as amiable as they might have been on their return from the moors, soon after which I paid them a visit.

The heather season has been a failure this year in that district, and Mr. Fenwick very generously made me a present of one of his few perfectly sealed sections of heather honey. He also let me taste his mead, which was most excellent; but I envied the heads our Saxon forefathers must have had, to be able to stand the quantity of this potent liquor they appear to have imbibed on festive occasions. He makes all his own hives, &c., which are models of neatness and ingenuity; all adapted for taking to the heather. The hives were all made with alighting-boards of perforated zinc which closed on hinges up to the porch; the floor-boards slid out, and the bottoms of the hives were also covered with perforated zinc, so that they could be perfectly ventilated when moved. His two-pound sections he works the narrow end upwards, and finds they are better finished this way. I also noticed all his section crates had a narrow piece of cloth tacked round the bottom edge to ensure no escape of heat.

Another large bee-keeper in the district is Mr. Finlay, who is also a successful gardener, and who from what I understood has carried off the laurel wreath in many a tournament of florists.

Mr. Webster was in that district a few years ago and gave a fillip to the industry, but I don't fancy it has lasted.

I hope some day to pay another visit and to see some more of its bee-keepers.—T. D. S., *Alderley Edge, November 14th*, 1892.

STANDARD HONEY BOTTLES.

[1221.] Having read the various letters that have appeared recently in the columns of the *B. B. J.* under the above heading, I trust the B. B. K. A. will never sanction any such thing as a "standard honey bottle," either for show purposes or otherwise. In my opinion it would simply be clearing the way to encourage dishonest practices, for it is a well-known fact there is honey *and* honey. Now, if a "standard" bottle was adopted, what would be the result? Good, bad, and indifferent honeys would all go into the same jars, and, as we all know, no label or private mark must accompany such jars for exhibition purposes. At the close of the show a large buyer turns up and buys the whole exhibit. These at the time are warehoused, and by-and-by sent out amongst his customers. Very likely some inferior samples are amongst the collection; but how is the buyer to know who has contributed the inferior stuff? I think every bee-keeper has a perfect right to think for himself or herself; and as tastes differ so much, so it must in selecting a suitable honey bottle. In my experience of handling honey—and I flatter myself by saying *tons* of it have passed through my hands—no such thing as a guaranteed weight is ever asked for. In bottled honey or section honey, these are sold by the dozen. Of course it is generally understood the "run" honey is pure, and "sections" fairly well filled and sealed. Beyond such observations nothing more is asked for, and as a rule these bear the label and name of the producer. I fail to see wherein fraud or dishonesty can be found with any person selling their section or their jar of honey at 1*s.* 6*d.* each, while Tom Jones down the street sells a larger section or jar for 1*s.* You cannot have both *quantity* and *quality*. Then again, not a few are under the belief that the nominal one-pound screw-top jar ("Breffit's") does not hold a full pound (sixteen ounces) of honey. I have tried them *too* often not to know what they hold, and I find when properly filled, as they ought to be either for the show-table or the trade, they contain from half to one ounce over the weight. In my opinion there is no bottle made to excel

the nominal one-pound screw-top for nice appearance or get-up; but others who may think differently are just as entitled to their opinion as I am to mine, and when the time arrives (as I hope it never will) that show committees insist on a standard bottle, my career as a honey exhibitor will be gone, and with or without a standard jar I know I can dispose of my own produce.—J. D. McNally.

PRICE OF HONEY AND WAX.

[1222.] Mr. Wells has interested many readers of the *Journal* by showing how to obtain a large average of honey per hive, and I am sure he would also greatly interest the same readers if he would tell them how he manages to get such a high price for his honey and wax. Most bee-keepers can only get 8*d.* for sections, 7*d.* for extracted honey, and 1*s.* 4*d.* for wax. My grocer sells honey in glass jars at 7*d.* per pound. —Honey, *Essex.*

NOTES ON COUNTY BEE ASSOCIATIONS

Bee and Poultry Keeping.

[1223.] It will interest bee-keepers generally to know that the organization of the "British" and the County Bee-keepers' Association is held up to poultry-keepers and their associations as an example to be imitated (*vide* articles in *Poultry* of October 29th and November 5th). Poultry Associations are exhorted to reform and have County Associations, affiliated to one national association. Poultry-keepers are also told to imitate Mr. Garratt's example (K.B.K.A.), and get a census of poultry-keepers and poultry, so as to form an idea of the home egg supply same as the K.B.K.A. has done as to the county of Kent's total honey production. They say the K.B.K.A. has proved conclusively that the honey product is not a fourth (probably not an eighth, we might add) of what it could be and what it should be in Kent, that's certain, and if poultry-keepers, with a far more extensive industry, were to wake up, they would find, if they had statistics, that the British home egg supply is not a tenth of what it should and could be! We English people, with plenty of scope at home, employ the foreigner to *keep for us* abroad 7,500,000 hens and 375,000 cocks, to supply to this favoured land 1,000,000,000 eggs annually! If honey and eggs and poultry were produced to the extent that they ought to be at home, what an enormous increase there would be in our home food products! I congratulate Mr. Freshwater on having turned out very excellent photos. of Mr. Carr—one of our editors—in various positions manipulating bees. Two illustrations appeared in the *Practical Photographer* lately (edited by H. Snowden Ward). One shows Mr. Carr in the act of throwing down a skep full of bees in front of a frame hive, the other shows our friend intently watching the process or rather the "procession" of the bees going up into the hive. The "pose" of Mr. Carr, his expression, the trees, the grass in foreground, and the houses and garden fences in the distance make these photos. most attractive and artistic. They must show marvellously well on the screen with a powerful lantern, and make splendid and instructive illustrations for a lecture.—E. D. T., *Eynsford.*

BEES IN CO. KILKENNY.

[1224.] I send a few additional notes to those you recently printed on bee-keeping in this district. There are more bee-keepers around here than in any other part of the county, but their system is of the worst possible kind. They do not feed in time of scarcity, consequently lose several swarms and stocks in bad seasons. They condemn their heaviest stocks to the sulphur pit in order to possess themselves of their stores, keep one or two light swarms or stocks for the following year, which, as a rule, die out of hunger before spring. Neither have they the slightest idea of the wants or requirements of their bees.

The hives, which are for the most part skeps, are set on flags or large stones as stands; the flag, which is naturally cold, causes condensation, and in consequence it gets wet whenever the weather changes. There is one bee-keeper with an apiary of about thirty-five or forty stocks, of which I will give a short description. The hives are kept in a small garden about ten yards by fifteen yards, and in every imaginable position, facing all points of the compass; some are on the ground, others on flags, some on old chairs, &c., all leaning in different directions. As for the hives proper, every kind of box is utilised as a domicile for the bees — soap boxes, candle boxes, biscuit boxes, &c., all of different shape and size: the boards of some are less than a quarter of an inch; there are also skeps, without hackle or other covering, reduced to about half their original size from age and weather. It is a sight to see, on a fine summer's day, the bees going in and out in every direction from this small garden, which is situated in a village beside the public thoroughfare; one would imagine that a swarm was just after issuing, seeing the air thick with bees. This apiary has been established for about eight years; the owner secured a stray swarm that settled in his little garden. He never gets honey from them; he neither drives nor smothers any of his stocks; he appears to be afraid of or to have some superstition about the bees. It is the surprise of the writer and others how the bees in this apiary live at all. Of course, he loses some stocks every winter; but how any of them ever survive is the mystery, seeing that the hives are so open and constructed of such light material. To think the bees could be dry, much less warm, is out of the question. The bees go in and out in several parts of the hives; many have three or four doors each to guard from robbers, &c. I gave the owner of this extraordinary apiary

some of my ideas on bee-keeping, and offered to assist him; but found my advice was lost, and so left him as I found him. He is a cottager. There is a fine field down here for a bee association, but, unfortunately, we have none. It is a grand clover country—as good, I think, as any part of Ireland. I wonder that the Irish Bee-keepers' Association are not extending branches or making any efforts to obtain grants for technical instruction in bee-keeping.—M. K., *Co. Kilkenny.*

STRAY SHOTS FROM THE BRISTOL DISTRICT.

[1225.] It has been my ambition to give vent to my feelings more than once on subjects which are being continually brought to the notice of fellow bee-keepers through the columns of your journal, and the one that strikes me most is the Chicago Exhibition. I must confess that on reading your list of many willing helpers, that we should not only look ahead, but should go ahead in the direction of making a good show of honey at the World's Fair, and in the course of next week will see what can be done in our district towards contributing to your success. It is probable that other countries will send an elaborate display, and why should we not appear there in full strength also? Otherwise I am afraid our Yankee friends will say that we are unable to produce honey good enough to show, and therefore do not know what good honey is.

Pollen.—There is a great difference of opinion as to how this valuable substance is prepared for the hive, but what I do say on this point is that it is most useful in the early spring, and for its production bee-keepers should plant this month crocus, which will yield abundance of pollen, and make the garden gay and cheerful. These can generally be purchased from all seedsmen at 9*s.* per 1000, carriage paid.

Standard Bottles for Honey.—As there are two sides to every question, so there seem to be two very different opinions as to whether bottles should be made to hold fourteen or sixteen ounces. There is no man more anxious to see fair play between buyer and seller than myself; but I am not to be turned to one side or the other by one man's opinion. Trade only will decide. Don't be led away by a man who will come up to you and say, "Dear brother So-and-So, don't you think that the full-weight bottle is the one that should be solely used?" My experience of such men is that you might well compare them to a finger-post pointing the way they don't go themselves. Those who have produce to sell must put it up in a form to meet the demands of the purchasers. I am of the opinion that not more than one in ten of the general public know whether they are buying one or two pounds in the bottles. They merely see a bottle of honey and ask for a bottle of honey; and if your bottle of honey is 1*s.* 2*d.* and your neighbour's is 1*s.*, they will invariably go for the cheaper; but, should they find out that your neighbour's is inferior, they have not the pluck to come and tell you and continue to purchase as before, but immediately are attracted to another shop by some flaring advertisement, leaving your bottles on the shelf. At the present time I am using bottles which hold a little over a pound, but I never yet heard a customer ask for anything else than a "bottle." It being impossible to get more than 1*s.* per bottle (retail) makes the profit small for the producer by the time he has purchased his screw-cap bottles; but by using fourteen-ounce bottles I think there is a better profit to be made, and the public will be equally well pleased, as the two ounces which he gains on each bottle will nearly pay for the empties. I intend to try the fourteen-ounce bottles next season, unless an unforeseen decision should be arrived at in the meantime.—JAMES BROWN, *Hon. Sec. to the Bristol District Bee-keepers' Association.*

MY EXPERIENCES.

[1226.] Having received much help from the experiences of other bee-keepers as related in the *B. B. J.*, I feel it my duty to send you a short account of my bee-keeping experiences with the hope that it may encourage others who have taken up the pursuit, and also lead out some of those who may have been hesitating to make a start.

In 1890, I began with a lot of bees driven from a hollow tree united to a May swarm that had been overturned one windy night and the combs smashed. It was too late in the season for them to recover themselves in time to gather sufficient to winter on. In the autumn I set to work amongst the condemned bees in the neighbourhood and secured sufficient to make three stocks, which I fed up with syrup, and waited for the results of spring, 1891.

All four lots came through well and, having stimulated them to early breeding, I was so far prepared to make the best of summer, 1891. I also bought a stock in April and thus increased my number to five. The result was that I had upwards of 130 pounds of honey and a late swarm weighing 6¾ pounds. My hives are my own make, containing ten, twelve, and fourteen frames.

I sold the produce at an average of 9*d.* per pound. The deficiency of storage in brood chambers was made good with about 28 pounds of food. This was in South Oxon.

In the autumn of 1891, I removed my belongings to my present address, a distance of about twelve miles.

After uniting, and the loss of a colony through the agency of a mouse, my spring count, 1892, was seven hives made up as follows: Nos. 1, 2, and 3, the stocks that I built up from driven lots in 1890. Nos. 4 and 5, the stock that I bought in April, 1891, and its swarm. Nos. 6 and 7, stocks from driven bees of autumn,

1891. Having read of the "Wells" system, I made a hive capable of holding eighteen frames, and during Whitsun holidays, I put Nos. 6 and 7 into it, following up the instructions as near as I could under the circumstances. No. 7 was a very small lot, but had a good queen.

My returns are as follows: No 1, 75 pounds. No. 2, 22 pounds and a cast (swarm decamped). No. 3, 60 pounds. No. 4, 42 pounds. No. 5, 73 pounds. No. 6 ("Wells"), 85 pounds. Making a total of 357 pounds. I have also about 4 pounds of beeswax, besides a good number of shallow frames of comb. I sell my honey at an average of about 9*d.* per pound. My outlay was about three sovereigns for this season. I should have had more honey if I could have given more supers, but was obliged to neglect the bees just in the midst of the honey-flow. About 18 pounds of sugar will winter them.

I am but a novice, and owe my success largely to the *B.B.J.*, and I therefore take this opportunity of expressing my gratitude, both to those who conduct and those who contribute the articles that go to make the *B. B. J.* both interesting and useful.

I may just add that I am a working man, and go in for home-made appliances. I have a growing conviction that the let-alone system is far the safest for novices, and that it would be far better if young beginners were to content themselves with only those manipulations that are absolutely necessary, until they have learned from practical experience what a bee really is.

I might ask a lot of questions, but I prefer to wait and think first, and also watch the columns of the *B. B. J.*, and consider over what I have read.—South Bucks.

THE BEE-TENT AT THE YORKSHIRE SHOW.

[1227.] Mr. Jno. Bainbridge (1207, p. 430) makes a remark on the disappointment felt at the absence of the bee-tent from the Yorkshire Show this year, and I think an explanation from me is now due to those of the fraternity who went to the show.

In 1887 I was appointed Hon. Secretary of the Yorkshire B. K. A., and each year was invited to lecture in the tent at the county show. This I did, but as it was a three days' task, I got the assistance, at Hull and Huddersfield, of our own Branch Secretaries, Mr. J. Emerson, of York, and Mr. Dodgson, of Skipton. In May, 1891, I had a six weeks' illness of influenza, and this left me so prostrate that I asked my predecessor to take the lecturing (of course, the Y. B. K. A. paying his expenses), and he kindly came to my help. But, in 1892, finding his name advertised as lecturer on the programmes of the Yorkshire Agricultural Society, I wrote to their Secretary, stating the case, and asking if it was an error in making the announcement of Mr. Rickards as lecturer. A reply came, dated July 23rd, "Assuming Mr. Rickards would lecture again as usual, I placed his name on programme, and trust that, in spite of advancing years, he may this year be again able to undertake the duties. I have forwarded him your letter." I took this as a personal rebuff. Our respected friend Rickards (who had retired in 1887, giving old age as the reason of his retirement, and who then ceased to subscribe to the Y. B. K. A.) would not see my letter sent him by the Secretary of the show, for, unfortunately, he died the day it was sent. Next follows a letter on July 26th, from the Secretary at the Show-yard, Middlesbrough, as follows:—"You will see that poor Rickards is dead. Will you be able to lecture in the Show-yard?" To which I replied:—"I am much shocked at the sadness of this. *Re* lecturing at Yorkshire Show, all through the season I had kept the three days open for the purpose, but, upon receiving yours of 23rd, I made other arrangements, and regret to say that I shall not be able to undertake the duties. I therefore enclose the ticket you kindly sent." I did not think I should be doing justice to my Association or to my *amour propre* if I put myself out of the way to make myself a stopgap and convenience, after having received such a slight as I considered I had had put upon me. Under these circumstances I must ask our friends to accept my sincere regret that there was no bee-tent at the show; it was through no want of will on my part.—R. A. H. Grimshaw.

AN AMATEUR'S SUCCESS.

[1228.] For the encouragement of brother amateur bee-keepers I send you a few notes of my success hitherto. In June, 1890, I purchased two new bar-frame hives, knowing nothing whatever of bees. I got the hives populated by a small swarm and a driven stock from a skep which had swarmed. Seeing the process of driving, I learned to do that at once, and soon obtained a number of driven lots from cottager skeppists in the neighbouring villages. But whilst I gained largely in experience of handling bees, my results were poor indeed. I attempted to unite driven lots with those in the bar-frame hives, and I groaned in spirit at the awful slaughter which ensued, and learned, with amazement, that insignificant insects, whose moral character I had deemed irreproachable, knew how to fight. The method of uniting with flour had not then been made known in your valuable paper. How many times I have proved its efficacy since! My frame hives were weakened rather than strengthened, so I set up other driven lots in new skeps — a *single* driven lot in each *new, unpropolised* skep, and no comb provided! What availed it that I gave nearly thirty pounds of good syrup to each stock, and wrapped them ever so warmly? I just worked all the energy out of those poor bees, and early in the spring of 1891 they departed this life,

leaving me two poor, weak lots in the frame hives. I got no honey from these, but I set to work and built a good hut, and made a number of bar-frame hives, with their supers, and deep and shallow frames too. I got more bees, united weak stocks with flour in the autumn, put eight stocks into wintering form, and had the pleasure this year of finding they had all wintered well. From these eight stocks I have taken 260 pounds of honey — an average of thirty-two and a half pounds per hive, which, on this side of Staffordshire, in the past poor summer, I deem no mean success. I prevented four of the seven frame hives from swarming. Three and a skep swarmed. I have now fourteen good stocks in frame hives and one skep. Eight of the queens are of 1891, and seven were hatched this year. With good wintering, these should do very well next year. Immediately upon your publication of Mr. Wells' success with two queens in a hive, I made a "Wells," to hold twelve frames, on each side the perforated divider, accurately following his directions. In this hive I have two fertile sister-queens of this year, and a goodly number of bees on twelve frames, six each side. From this I hope for a good result next year, and shall be glad to report it to you. Mr. Wells' last letter (1214, p. 438) is, however, so cheering that I shall not wait to test one only, but am commencing to make another.

I enclose you a photograph of my apiary and hut. Four of my stocks work through entrances into frame hives on benches inside. Hives like these need no paint, no roofs, and they winter very well. Two face east, and two south; and, with care, I find I do not disturb them with hive and frame-making inside. Of the honey taken this year I have already sold, without advertisement, 5*l.* 9*s.* 3*d.* worth, at 1*s.* per pound. Despite my first failures, this one season has convinced me that bee-keeping can furnish, not only entrancing study and recreation, but that it may be made a financial success. It will be understood that all my hives and frames are of standard size.—HORNINGLOW CROSS, *Burton-on-Trent.*

BUYING HONEY.

[1229.] Having read with interest the various notes and letters which have from time to time appeared in the *Journal* on the question of adulteration of honey, I shall be greatly obliged if you will kindly give me, through your esteemed paper, your opinion on the enclosed sample of honey which I have received from a gentleman who advertised in the *Journal* as having a quantity of honey for sale. He did not offer samples but as I was wanting a few hundred pounds I sent for a sample, enclosing six stamps, and in reply I received what I now send with a letter stating he was selling it at 7½*d.* per pound in large quantities and that "the honey is pure English and of this year, as you will see." I have shown the sample to a bee-keeping friend of large experience, who lives in my neighbourhood, and he agrees with me in thinking that there is something peculiar about it—its clearness at this time of the year, and its absence of flavour and "taste of the hive," to which we in the northern counties are so accustomed tend to pronounce an unfavourable judgment upon it. However, I hope you will be able, *pro bono publico*, to find time to examine what I send.—JOSEPH W. HARRISON.

P.S.—I have dismissed any idea of buying of the gentleman.

[There is certainly a slightly peculiar flavour in the honey sent, but apart from this we consider it is of very fair quality, nor have we any reason to suppose that it is not what is claimed for it, viz., "pure English." As to your complaint of "its clearness at this time of the year," we have purposely kept the sample in a cool place since its receipt, and it is already rapidly granulating. No doubt you will be as pleased as we are to believe that no dishonest dealing has been attempted.—EDS.]

THE SEASON IN CANADA.

[1230.] The season with us has been an average one; our own apiary did fairly well. We sold quite a lot of queens, and after paying for work performed in the apiary, the profit for the last two years has been enough to pay for the entire apiary, consisting of ninety to a hundred colonies and all necessary appliances, an abundance of combs, supers, and perhaps twenty-five empty hives.—R. F. HOLTERMAN, *Brantford, Canada, October* 31*st.*

JUDGING OBSERVATORY HIVES.

[1231.] I, like your correspondent (in 1180, p. 408), would like the question of judging these hives freely discussed. You, in your editorial October 27th, say, "The point is to secure judges possessing the necessary experience. This the B. B. K. A. do to the best of their knowledge." Quite so; but there are many honey shows held now that have no connexion with the B. B. K. A., or any of its affiliated societies, the committee of said shows often having to get judges who do not possess the necessary experience as to the points that should be taken into consideration. It is with the idea of getting certain points generally made known that we ask this discussion. Only this last season, to my knowledge, a judge had to ask an exhibitor in this class how they should be judged, and withheld the prize from an exhibit which, I venture to think, a more experienced judge would have given it to, because he thought there were too many bees in it. Another judge, and one having had more experience, said, "Pack as many bees into it as you can get in."

In "Notices to Inquirers" for August 18th, 1887, it says, "So much depends upon the get-up of the hive, the condition and building of the combs; also the quantity and quality of the

bees." I would ask how much depends on each? I should have thought the get-up of the hive would have been the last point in the consideration. I think some of our best judges might give us their idea of what an observatory hive should be.—H. GREY.

A VISIT TO SOUTHALL.

[1232.] Being up for the Dairy Show, and noticing in the *Journal* that Mr. C. N. Abbott had been unwell, I made up my mind to go down to Southall. I found Mr. Abbott at home, but was sorry to learn that he was in poor health, and had been for a long time past. He took me into the workshops belonging to his sons (Abbott Bros.). The younger partner (Stephen) kindly showed me the many useful and artistic articles they manufacture, such as photograph frames, trays, boxes, stools, medicine cupboards, fancy tables, and fancy small "grandfather clocks," also a great assortment of articles decorated with what is called "poker-work," which looked very beautiful. On inquiring how they had got into that kind of work, I was told it had grown little by little, till it had become a very large manufacturing concern.

The beehive and appliance-making trade was, of course, quiet at the time of my visit, but with the plant and staff of hands employed, they are enabled to do a great deal of work in hive-making in a short time when such things are wanted. It was mentioned that they had had inquiries about hives with bottom boards two inches thick for Australia or New Zealand.

Speaking of many things connected with bees and bee-keepers, I asked Mr. C. N. A. if he had noticed in the papers the death of Mr. R. Symington, of Market Harborough. He had heard of it and was much affected by it, as I was myself. Mr. Symington was one of the pioneers of modern bee-keeping, although, like myself, he was indebted to Mr. Abbott for much of his first knowledge in the craft; he was one of the committee of the B.B.K.A. when first established, and in conjunction with Mr. Abbott, imported two of the extractors made by Murphy, of Illinois. Mr. Symington showed at the Crystal Palace Show in 1874 nearly two hundredweight of honey from one hive, taken by means of the extractor.

I also called on Mr. Lee at Messrs. Neighbour's, and was much interested in the machine for making "Lee's" dovetailed sections, and which they turn out at a very rapid rate after the wood is cut to the thickness and width. A boy can feed the machine and the sections are drawn through, cut off, and grooved for the dovetails all at one operation, and fall into a receptacle at the rate of sixty per minute.

Unfortunately I could not get to see friend Baldwin, although I went down to Wickham Court, which is only about three or four miles from Bromley; but I was driven for time and trains did not fit in.

I notice Mr. H. Rowell (1208, p. 431) speaking of his self-hiver, and how it happened, having a swarm from one that had the hiving arrangement, and another from a hive without, the two swarms coming out together have acted just as I expected they would do, that is, if one swarm was out and a queen with them, and another out of a hive that had the hiving arrangement in place—I quite expected, if they came out about together, that the lot that had not got their queen would go and join the other lot with the queen, although some of our American friends said they would not do so. When I have had several swarms out at nearly the same time, I have many times covered one lot up with a sheet to keep the other from joining them, although they were accompanied by their queens.

Have got all stocks packed up for winter and well provided with food, so that come hail, rain, snow, or frost, they are in a fair way to hold their own.—JOHN WALTON, *Honey Cott.*

Queries and Replies.

[677.] *Legalities of Bee-keeping.*—I shall be greatly obliged if you can answer the following questions, as the issue is of great importance to me. 1. Are bees recognised as a "nuisance" by English law? 2. Has a case ever occurred where neighbours have obtained an injunction from a magistrate or County Court judge to compel a man to remove or sell bees located on his own ground, owing to their occasionally stinging people during hot weather, or damaging a laundry business by their cleansing flights during spring and early summer? It seems to me that the present state of the law, as it relates to bee-keeping, should be more generally known to members of the craft. Could not a pamphlet embodying the chief cases of litigation with respect to bees that have occurred during the past few years, with the judges' decisions thereon, be published by the B.B.K.A. for the benefit of all whom it may concern?—F. L. S., *Cheltenham.*

REPLY.—1. The plain answer to your query would be no, but it must be admitted that anything which causes a nuisance *is* a nuisance, and if bees are kept near to a dwelling-house in such a way as to be proved "a source of danger and a nuisance," the owner may be compelled to remove them. The duty of a bee-keeper is obviously to exercise such reasonable care in the management of his bees as will free him from liability in this respect, and now that honey may be so easily taken without disturbance by means of super-clearers, and bee-keepers have learned to leave off attempting to manipulate bees at improper times, the task of maintaining quietness in the apiary is not a difficult one. 2. We cannot call to mind a case in point, but, bearing in mind the fact that a manufacturer may be mulcted in a penalty for having a chimney which causes a nuisance through

emitting too much smoke, we can well believe that damage to a laundry business through bees might be proved unlawful in the same way. We do all we can to make known the law on the subject of bees, but it is a difficult matter to define it clearly, as judges have found out. Your suggestion as to a pamphlet might be entertained if it was at all certain that a demand for such exists. Our own opinion, however, is that too few copies would be asked for to warrant the B. B. K. A. in undertaking its publication.

[678.] *Queens Leaving Hives.*—On the 26th October, the morning being warm, I went in the afternoon into the country to cover over my bees for the winter. On my arrival, at three o'clock, it was both cold and dull, and I was surprised to see my best young queen on the outside wall of the hive, about five or six inches from the entrance, with about eight or ten workers around her, and evidently almost numbed. I gently pushed her towards the entrance, and she walked in quietly. Can you explain the unusual circumstance? I don't think she could have been outside during the previous night, or she must have succumbed to the sharp frost. The hive is a large double one (same hive and queen as mentioned in *B. B. J.*, August 11th [1111, p. 306], the top having been left on for the bees to take down stores after uncapping for the purpose. Both parts of the hive were well populated, and the honey was not taken down. So I made them as comfortable as possible, and left the double, removing the excluder. There seemed to be no commotion in the hive beyond that caused by manipulation. Another circumstance I noted was that the attendant outside bees did not seem to see the queen leave them, but remained on the spot for a minute or two, and then suddenly they all ran towards the entrance like hounds on a scent. Could they have heard any hum of satisfaction within, the walls being thick and double? At any rate I did not.—S. J.

Reply.—There is no means of *safely* accounting for such vagaries on the part of queens as the one described. Old and worn-out queens sometimes do creep out of hives to die, and a few bees will cluster round them, as yours did.

LECTURE ON BEE-KEEPING.

In connexion with the Technical Education Committee of the County Council and the Leicestershire B.K.A., Mr. W. P. Meadows, of Syston, gave the first of a series of three lectures on "Bees and Bee-keeping," at the meeting of the Mountsorrel Mutual Improvement Society, held in the Mechanics' Institute, on November 1st. There was a very large attendance. The first of the series of lectures was, "Bees: their natural history, the offices of queen, drone, and worker; their length of life and the work they perform; queen-rearing; the diseases of bees and their treatment." Questions were invited, and the lecture was much enjoyed. A hearty vote of thanks was, on the motion of Mr. J. J. F. Scott, accorded to Mr. Meadows at the close.

Notices to Correspondents and Inquirers

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. W. R. (Andover).—*Naphthaline and Naphthol Beta.*—Naphthaline, as a preventive of foul brood, is far better used as sent from this office than in any other form, and may cause serious mischief if used of greater strength. Naphthol Beta, also sent from here, is of the proper strength advised by Dr. Lortet, for use according to the directions accompanying each packet, and we should not advise its use in any other way.

Robert King (York).—If the candy given is properly made, *i.e.*, soft, it will carry the bees over the winter, supposing the combs to have as much honey in them as stated.

H. A. D. (Kingswinford.) — *Weak Stocks in Skeps.*—We should first have some knowledge of why the bees are "very weak," but in any case they will require very careful attention to carry them safely over winter. It is now too late to start syrup feeding; soft candy must therefore be relied on for supplementing the food already in store. Place a good-sized cake (say three pounds in weight) of well-made candy over the feed-hole, cover it well up to keep in the bees and stop through-draught. Keep the skep dry, and cover it up as snug and warmly as you can, and trust to the vigour of the queen to pull up the strength of the stock in spring.

Arthur Nye (Brighton).—*Miniature Comb.*—If you could see Mr. Lomax, curator of the Brighton Museum, who is a skilled entomologist, he would no doubt give you full information regarding the curiosity, which we return as desired. Should you, however, have no further use for it, we will thankfully give it a place in our collection.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

*** *Several articles, queries, &c., are in type, and will appear next week.*

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Committee meeting, held at 105 Jermyn Street, on Wednesday, November 16th. Present: T. W. Cowan, chairman; the Hon. and Rev. H. Bligh, Rev. Dr. Bartrum, Messrs. W. Lees McClure, W. B. Carr, J. Garratt, and Major Fair; Rev. W. E. Burkitt and Mr. J. M. Hooker (*ex officio*).

The Secretary was absent through illness, and the Chairman read the minutes of the previous meeting, which were confirmed and signed.

The Chairman reported that he had had an interview with Sir Henry T. Wood, and had since had some correspondence with the Royal Commissioners for the Chicago Exhibition, with the result that they will take charge of British honey whilst in Chicago, and defray cost of cases for exhibiting it if the B.B.K.A. sent a representative collection. This, the Chairman pointed out, they intended to do, and had also suggested that the B.B.K.A. might send an educational exhibit of books, diagrams, and lantern slides, such as they are recommending for technical education lectures. He also stated that he had pointed out to the Commissioners that it would be impracticable for the B.B.K.A. to send out an exhibit of working bees.

On the motion of Mr. McClure, seconded by Major Fair, it was unanimously decided to send an educational exhibit of books, diagrams, and lantern slides.

The Chairman reported that the second-class examinations, with one exception, had taken place on the days appointed, and that the papers were now in the examiners' hands, and results would be published when the necessary marks had been awarded.

It was decided to lend the new series of slides, purchased of Messrs. Newton, to affiliated Associations, only on the application of chairman or secretary, and on their paying cost of carriage, besides taking all risks of damage or loss; members of Associations to pay 2*s.* 6*d.* a night for use of slides, and non-members 1*s.* per dozen per night; expenses and risk of damage to be borne by borrower.

The financial statement read by the Chairman showed a balance in hand of 13*l.* 7*s.* 9*d.*, and it was decided, in view of the continued illness of Mr. Huckle, that he should have some assistance in getting out the accounts. It was pointed out that there were a good many subscriptions still unpaid.

Mr. Garratt reported that the Chicago Sub-Committee had met several times, and that there were already promises of between 400 and 500 pounds of honey. The Committee had invited a competition by offering prizes in money and medals, and was about to issue a circular letter to secretaries of affiliated Associations asking them to get members to send honey, so that a thoroughly representative collection should be sent out. The action of the Sub-Committee was confirmed by the Committee, and it was decided to extend the time for receiving donations of honey to the 20th December.

Five judges were selected to make the awards in the competition, and as each of these gentlemen was going to send honey to Chicago, it was, of course, understood that this honey would not be entered for competition.

The Committee decided that there should not be a regular meeting in December, unless absolutely necessary through matters turning up with which the Sub-Committees had not power to deal. The Committee then

adjourned to January 18th, 1893, unless an earlier meeting was found necessary.

Special General Meeting.

A Special General Meeting of the members of the B. B. K. Association took place at 105 Jermyn Street on Wednesday, November 16th, at five p.m. Considering the bad weather, there was a fair attendance of members. In the absence of the Baroness Burdett-Coutts, Mr. T. W. Cowan took the chair.

The Chairman read the notice of meeting originally convened for October 19th, and the notice postponing it to November 16th. The notice requiring the meeting to be called was signed, as required by the rules, by over twelve members, and the proper notices had been given. The object of the meeting was, "To take into consideration the wording of Rules 3 and 9, and to consider the advisability of altering the Rules, so as to admit the election of honorary and foreign corresponding members."

The Chairman reported that he had communicated with the Baroness Burdett-Coutts urging upon her ladyship the desirability of her continuing as President of the Association for the coming year, in view of the Chicago Exhibition and other matters of importance the Association had in hand. He was pleased to say that the Baroness had acceded to his request. This intimation was received with considerable satisfaction by the members present.

On the motion of the Chairman, seconded by the Hon. and Rev. H. Bligh, it was unanimously decided to alter Rule 3, and add after honorary members the words, "and foreign corresponding members."

It was further decided to commence Rule 5 as follows:—"The Association shall have power in each year to elect not more than five eminent persons as honorary members; also eminent foreign bee-keepers may be proposed and elected as corresponding members, without payment of any subscription whatever, but they shall not have the power of voting;" the remainder of the rule to stand as at present.

Rule 9 was also altered, so that honorary members and foreign members could now be elected at the Annual General Meeting of the Association.

This concluded the business portion of the proceedings, after which the meeting adjourned for refreshments preparatory to the usual quarterly *conversazione*, which took place at six o'clock p.m.

Conversazione—Discussion on Foul Brood.

The Hon. and Rev. Henry Bligh presided, and, after a few introductory remarks, invited Mr. Garratt to express his views respecting foul brood, and the best measures for its repression.

Mr. Garratt had not intended to speak on the subject, but thought it was a theme of the highest importance. It had been discussed many times before at similar meetings, and although much was known of its prevalence, nevertheless, little or no action—certainly no combined action—had been taken by bee-keepers to stamp out the disease. It had been spoken of as a subject which might be suitable to bring before the Agricultural Department as a contagious disease; but he feared no satisfactory result would follow such proceedings, besides which, it would be premature to approach the Department before being prepared to suggest a remedy for the evil. In the county of Kent the disease existed in several localities, and varied in virulence, according to whether remedies were used or not. There was still a certain amount of success in gathering honey, although, needless to say, in some quarters the disease was so bad as to be fatal to the obtaining of any honey harvest. He had been rather struck that autumn by a suggestion from a gentleman who was a member of the Kent Association. He was a gentleman of leisure, and had around him several bee-keepers in a humble position, and he had formulated the idea that the best thing to do was to get the people in the district where he resided to form a local society (quite independent of the local County Association) for mutual protection against foul brood. He (Mr. Garratt) had had some correspondence with the gentleman referred to, and had stated his reasons why he thought the proposed local society hardly calculated to deal effectually with the disease. It was a well-known fact that bee-keepers were often unwilling to have their property inspected by their neighbours, and there was an old saying that "a prophet was not without honour except in his own country." On the other hand, a man sent down by a central society to examine and report on what he found would be received with a great deal more respect, and his suggestions probably heeded and carried out. He (Mr. Garratt) had thought it right to commend the action proposed to a certain extent, but he had also pointed out the greater advantage which would accrue by organizing a branch of the existing Association in the county, and then setting aside a fund in the Association for dealing with the evil. Of course, data would be required, and a calculation would have to be carefully made as to how the matter was to be dealt with. It struck one at the outset that the method adopted in regard to diseases amongst the larger animals would

probably afford precedents in the present case, and thus a system of inspection and compensation at once suggested itself. He thought it would be a great advantage if the B.B.K.A. advocated some measure of the kind, and recommended the County Associations to do the same. With all deference to the science which had been brought to bear on the subject, he could not but think that to the ordinary bee-keeper and those in the humbler walks of life there was no practical remedy for the disease short of destruction, and it was well-nigh impossible to get the working classes to sacrifice their living bees without a prospect of compensation or reinstatement of some kind; and consequently, in the absence of some plan of the sort indicated, he did not see any likelihood of the disease ever being stamped out. He thought the time had now arrived for some decisive action to be taken by the various Associations.

Mr. Till quite agreed with Mr. Garratt in advocating total destruction of hives as the best way of stamping out the scourge. His experience was that cottagers were not sufficiently careful in dealing with the diseased hives, and thus the evil was spread. Drastic remedies to prevent contagion were needed, like Mr. Chaplin applied in the case of foot-and-mouth disease, and he thought that where total destruction was resorted to arrangements should be made to provide the sufferers with fresh nuclei in the spring, or part compensation for their losses out of an insurance fund. Many bee-keepers after two or three years of success had given up the pursuit owing to the inroads of foul brood, propagated by careless neighbours. He had himself tried to cure the disease, and apparently with success for some time; but on the return of spring it broke out with redoubled vigour, and he was obliged to destroy the affected hives. He thought the editors of bee journals were wrong in answering correspondents when advocating any cure other than destruction, which was in the end cheaper and undoubtedly more effective.

Mr. Blow considernd Mr. Garratt's suggestion a most valuable one. It would be highly desirable if the B.B.K.A. could get the Agricultural Department to recognise bee-keeping, but he was afraid that could not be done at present. The Canadian Legislature had passed an Act by which apiaries were open to inspection by Government inspectors, and he thought that example might probably be followed here. But if Government help could not be obtained for the industry of bee-keeping, the B.B.K.A. might form an Insurance Fund by which compensation could be obtained in full or in part, as was carried out in the case of diseased cattle and pigs. He believed most bee-keepers would subscribe to the fund, even those careful ones who had never had the disease in their hives. But every one must recognise that prevention was better than cure. There were many large bee-keepers who had never had the disease in their apiaries. He had always 100 to 200 stocks of bees, and had never been troubled with the disease. Whenever he saw anything bearing the slightest resemblance to it, he at once isolated and destroyed the stock. At the end of every season a certain amount of feeding had to be done, but he always treated the food with phenol. He knew Mr. Cowan and others were believers in Naphthol Beta and naphthaline; but he had used phenol for eight or ten years, and added a lump or two of camphor at the end of the season with each stock. He believed that successful cures were to be made when the remedy was persevered in. Mr. Cheshire's remedy of phenol would effect a cure if used judiciously and persistently; but if the case was a bad one, and only a few stocks were affected, the best plan was to destroy them at once.

Mr. Carr thought every one must approve of what was proposed to be done in Kent for the purpose of checking the disease, and if other Associations would carry out similar plans, a severe blow would be struck at the epidemic. He thought, however, that Mr. Garratt and Mr. Till did not attach sufficient importance to preventive measures, which he (the speaker) considered of the utmost value. If the bees could be kept thoroughly healthy, as his own were, by the use of preventives, which were both cheap and easily applied, it seemed to him that a portion of the proposed fund might be used in distributing preventives—by the hundredweight if necessary. He was afraid that if they waited till Government recognised bee-keeping as a subject for legislation, any remedial measures of the kind then being discussed would be postponed for a long time. Referring to what had been said as to the healthy condition of Mr. Blow's bees, some explanation was, he thought, to be found in the fact that the frequent changes of stocks by sales constantly taking place in the apiaries of dealers tended to keep these latter in good, healthy condition. It was a well-known fact that however healthy bees may be kept for a time even by ordinary care on the part of the bee-keeper, there were extra risks accruing from age of combs, constant manipulation, and, of course, proximity of disease, which combined to affect stocks as time wore on, and rendered the use of preventives absolutely indispensable. From such information as he had, it seemed as if Mr. Cheshire's cure had been found altogether ineffectual in ordinary hands, chiefly because of the skill required in applying it as Mr Cheshire himself did, and in a less degree because of the difficulty in getting bees to take phenolised syrup. What was wanted was something tasteless and almost odourless if the bees had to take it internally. The disease was prevalent all round his apiary, but his own bees were unaffected owing to the persistent use of preventives. He strongly advocated the "killing cure" in cases where the sacrifice would not be too great, but it was always best to recommend a plan which would have the best chance of adoption, and all knew the disinclination of cottagers to the destruction of their bees and the sacrifice of their hives.

Referring again to an insurance fund, Mr.

Blow said that M. Pasteur had discovered a remedy by inoculation for anthrax in sheep, the result of which was that cattle insurance companies in France would not take farmers' risks unless farmers took care to have their cattle inoculated with the attenuated virus. On the same lines, if an insurance company were started as proposed, no doubt one of the conditions of insurance would be that preventive measures must be adopted. There were four or five different preventives, but they were all of the same class. The best remedy was the one simplest to administer, and which had the least taste and was at the same time effectual.

Captain Campbell said it was very difficult for strangers visiting cottagers in the country to obtain information regarding the existence of foul brood. He had found the humbler class of bee-keepers exceedingly shy of persons they did not know, and he thought whatever machinery was devised to cope with the disease could be best worked by the Branch Associations, whose officers were in touch with local bee-keepers and had their confidence.

Mr. Hooker said that, when living at Sevenoaks (550 feet above sea-level), his bees suffered very badly from foul brood. He advocated preventive measures and the destruction of diseased stocks.

(*Conclusion of Report in our next.*)

HANTS AND ISLE OF WIGHT BEE-KEEPERS' ASSOCIATION.

Portsmouth Show.

A very successful show was held by the Hants and Isle of Wight Bee-keepers' Association in connexion with the Chrysanthemum, Flower, Fruit, and Vegetable Show, at the Drill Hall, Portsmouth, on November 2nd, 3rd, and 4th. The show was opened by his Worship the Mayor (L. Scott Foster, Esq.), and was visited by their Royal Highnesses the Duke and Duchess of Connaught. The exhibits in the open honey classes came from a very wide district—Salisbury, Bosham, Ards Calidon (Ireland), Chichester, Chertsey, Laurencetown (Ireland), Lichfield, Earnley, Hook, Portsdown Hill (Cosham), Henley-on-Thames, Denmead, World's End (Newbury), Netley Abbey (Southampton), Swanmore, Clare, Alresford, Crawley, Swindon, Wellington (Salop), Faringdon, Easton, St. Ives, and Landport, &c.

Class 1 (open.) The best section of honey.—1st, W. Woodley, World's End, Newbury, Berks (silver medal); 2nd, G. Bowers, Southgate, Chichester (bronze medal); 3rd, A. Homersham, Bosham (certificate).

Class 2 (open). The best bottle of honey.—1st, T. Giles, Cowsfield, Salisbury (silver medal); 2nd, J. Carver, Wellington, Salop (bronze medal); 3rd, G. Bowers, Southgate, Chichester (certificate).

The classes open to members only residing in Hants were not so well filled. The smallness of the honey harvest and the lateness of the season prevented very many from exhibiting. The chief prize-winners in these classes were T. Giles, Cowsfield, Salisbury; and Mrs. J. J. Candey, Portsdown Hill, Cosham.

The Rev. W. E. Medlicott, of Swanmore, Bishop's Waltham, had a very difficult task in judging the open classes, the competition being so very keen. He also had the honour of presenting the first-prize bottle of honey to H.R.H. the Duchess of Connaught, who graciously accepted the same. H.R.H. the Duke of Connaught asked him several questions about the exhibits, in which he evidently was greatly interested.

The Mayor and Mayoress spent some time at the honey stall, purchased some of the exhibits, and Mr. J. J. Candey had the pleasure of presenting the Mayoress with the first-prize section with which Mr. Woodley had won the silver medal. The visitors were much interested in a skep, without the bees, as showing the old style, and frame hives, the new style of bee-keeping.

Miss Martin, of Swanmore, kindly acted as sales-woman. Mr. G. Bowers of Chichester, Mr. Overton of Crawley, and Mr. T. Giles of Salisbury, did their best to make the show a success by explaining the differences in the colours of the honey and the mysteries of the hives.

On the opening day (Wednesday) the number of visitors present in the afternoon was the largest that had ever been known, but most of them were subscribers. On Thursday, when the admission was threepence, 6000 people passed the turnstiles. In the evening there were about 4000 persons in the hall at one time, but notwithstanding this there was room for every one.

WOTTON-UNDER-EDGE BEE-KEEPERS ASSOCIATION.

The annual dinner of the Wotton-under-Edge Bee-keepers' Association was held at the "Swan" Hotel, on Wednesday evening, November 9th, under the presidency of Mr. A. Treeby, of the Warren House, and the following were present:—The Rev. P. Upstone (curate of the parish) and the Rev. J. Hardyman, Messrs. V. R. Perkins, H. Matthews, C. Lumley, W. S. L. Clarke, W. Heath, F. Mockler, A. H. Watson, W. Hulance, A. H. Brown, W. Durn, R. W. Ford, T. Durn, E. C. Neal, H. Parkyn, G. Hodges, G. Gunston, C. M. Penly, A. Roach, Fred and Frank Tilley, E. Till, T. Meek, J. Blizzard, sen., W. Griffin, A. Workman, Andrews, C. V. W. Ellery, G. Venn, G. Parker, W. Fowler, Gittens, A. Foxwell, G. Dauncey, W. T. Adams, and W. J. Vigor. After the repast, apologies for absence were read from the Vicar, and Messrs. Goldingham, H. Perrett, and G. H. Perrin; after which, the Secretary (Mr. George Gunston) read his report, which expressed regret at the loss to the Association by the retirement of Mr.

A. J. Brown from the office of secretary and treasurer, which he had held from the commencement of the Society. The past season, although not a very favourable one, had enabled some of the members to harvest a fair quantity of honey, and of good quality, in the summer. In August they had held their fifth annual exhibition in the Town Hall, about 7½ cwt. of honey being staged. The Society was now in a position to be of great help to new members with its advice and assistance. The Rev. J. Hardyman congratulated the committee on their efficiency, and also on the success of the exhibition at the Town Hall, and that it was carried out without debt. Altogether a very pleasant evening was spent.

ESSEX BEE-KEEPERS' ASSOCIATION.

The Essex Bee-keepers' Association held their usual Autumn Show of Honey and Wax in the Corn Exchange, Chelmsford, on Thursday, November 10th, 1892. There were numerous exhibits, and some fine samples of honey. The judge of the honey was Mr. J. M. Hooker. The awards were as follows :—

Open Classes.—Single one-pound section of comb honey.—1. T. Colyer, Good Easter; 2. F. Tunbridge, Broomfield. Twenty one-pound sections of comb honey.—1. F. Tunbridge; 2. C. M. Collins, Tillingham. Twenty one-pound jars of extracted honey.—1. T. Colyer; 2. F. Tunbridge. Twelve one-pound sections of comb honey.—1 (and silver medal of the B.B.K.A.), T. Colyer; 2. F. H. Brenes, Brentwood; 3. F. Tunbridge. Twelve one-pound jars of extracted honey.—1. W. Loveday, Romford; 2. F. H. Brenes; 3. A. Mayell, Bradwell. Twelve one-pound jars of granulated honey.—1. A. Barnard, Chelmsford; 2. F. H. Brenes; 3. T. Colyer. Three standard or shallow frames of comb honey for extracting.—1. W. T. Cadness, Chadwell Heath; 2. F. H. Brenes; 3. F. J. Carter, Great Baddow. Sample of pure beeswax.—1. T. Colyer; 2. F. J. Carter; 3. J. C. Chillingworth, Bradwell Hall.

Amateurs' Classes.—Collection of comb and extracted honey, not less than twelve pounds or more than twenty pounds in weight.—1. (and E.B.K.A. certificate), F. H. Brenes; 2. F. Tunbridge; 3. J. C. Chillingworth. Six one-pound sections.—1. F. H. Brenes; 2. F. Tunbridge; 3. F. J. Carter. Six one-pound jars extracted honey.—1. A. Barnard; 2. F. H. Brenes; 3. F. Tunbridge.

Cottagers' Classes.—Single one-pound section. 1. A. Mayell; 2. J. Winter, Kelvedon Hatch. Collection of comb and extracted honey, not less than twelve or more twenty pounds.—1. W. Loveday; 2. L. J. Camping, Southminster; 3. H. Hale, Broomfield. Six one-pound sections. 1. C. M. Collins, Tillingham; 2. J. Winter; 3. H. Hale. Six one-pound jars extracted. 1. L. J. Camping; 2. W. Loveday; 3. A. Mayell.

Beeswax.—Sample of pure beeswax.—1. J. Winter; 2. G. Miller, Danbury; 3. A Mayell.

A sum of 21*l.* was taken at the doors.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE "WELLS" SYSTEM.

[1233.] I see in *B.B.J.* for November 17th, 1892 (1219, p. 447), our esteemed friend Mr. Woodley would like me to give a little further explanation regarding the five hives which were run through the season with but one queen in each. I will do my best to clear up the matter, but must go a little further back than last spring in order to make it as plain as possible. In the autumn of 1891 I had several surplus queens, and, instead of destroying them, I resolved to try and keep them through the winter in order to be able to choose the best when breeding commenced in earnest in the spring of 1892. The plan I adopted to preserve them was as follows :—I put in one hive three perforated dummies, and inserted one queen between each, with three frames of food and a little brood. Three other hives were divided into three lots in the same manner, but each had four combs. If I remember rightly, all these lots survived the winter; but, strange to say, most of them were short of bees in the spring, and before I had time to select the best queens, a severe case of robbing occurred. The strong lots attacked the weaker ones, and in one or two instances the bees and queen were all killed and the stores carried off. The brood in those hives where the bees were killed, of course, became "chilled," and perished.

This mishap occurred while I was away from home, and it took several days before I could finally stop the fighting and robbing. I still, however, intended to work them all with two queens in each, and I divided bees and brood to make them somewhat even in strength. I do not say these five hives were equal in strength to the other double lots; but by the latter end of May the bees in them well covered the fourteen frames, so that they were equal to very strong single stocks. A few days from this time, and as already stated, I decided to run five double and five single-queened stocks for the season, and therefore removed the five most backward queens, and allowed the bees of both lots to join forces under those left at th head of the colony. So each queen had the

whole of the fourteen frames of brood and food to itself. These stocks were supered when required in the usual way. The five double-queened stocks had been storing surplus quite two weeks before, but the greatest glut of honey commences to flow here generally about the middle of June.

I think, if I say that we had five *good, strong* single stocks in the spring, and five double-queened ones at the same time, I shall not be far wrong—at any rate, that is my opinion. I will just say that my son keeps the bee-account, and he has no notes regarding the robbing incident and the removal of queens, otherwise I might have given the particulars accurately. However, having talked the matter over, we believe the account as it appears in your pages is as nearly right as can be.

Another one of your correspondents (1222, p. 449), asks me to tell him how to get such good prices for his honey and wax. In reply, I can only say that all my sections this year have been sold retail 1*s.* each, while from dealers I have never had less than 10*s.* 3*d.* per dozen.

For extracted honey put up in bottles, I get 1*s.* each retail for full pounds and 11*d.* for nominal pounds, and dealers give me 10*s.* 3*d.* per dozen for the one and 9*s.* 3*d.* for the other. Persons who bring their own vessels for honey get one pound for 10*d.*, two pounds for 1*s.* 6*d.*, and for larger quantities I take a little less; but I have never had less than 7½*d.* per pound in bulk. So I think I am safe in saying that what I have stated is on the right side. For wax I have no trouble in getting 2*s.* per pound (for some I get 2*s.* 6*d.*). I should be very glad to inform others how to get these prices, but cannot go beyond accurately stating what I do myself, and this has been done.—G. WELLS, *Aylesford, Kent.*

HONEY FOR CHICAGO.

[1234.] Although somewhat late, it may not be out of place to refer to the communications from Mr. Blow (1174, p. 399) and Mr. Wilmot (1200, p. 421), in which they deliver themselves of some strong opinions relative to the action of the Committee of the British Bee-keepers' Association in promoting an exhibition of British honey at the forthcoming "World's Fair." That the views which they hold are confined to very narrow limits is shown by the success which the appeal put forward for contributions has met with. Mr. Blow says it was *unfortunate* that he was not at the meeting when the question was decided. Perhaps it was, as, had he been present, his letter, in all probability, would never have been written, and British bee-keepers would have escaped the stigma which such sentiments fasten upon them. In any case it seems somewhat inconsistent for Mr. Blow to recommend that America should be left "severely alone," seeing that—unless I am mistaken—he imports the whole of his sections from that country. The decision of the Committee was unanimous that the opportunity presented for bringing the industry of British bee-keeping into prominence should be promptly accepted, and in this decision the support of British bee-keepers was fully relied upon. Hitherto the relations between the members of the craft on the opposite shores of the Atlantic, with hardly an exception, have been entirely friendly, and why, now, we should be called upon to exhibit envy, malice, and uncharitableness in sullenly refusing to accede to what has been courteously offered us, involves nothing less than a misrepresentation of the character in which it is our strongest desire to appear.

It is without conceit that we send a representative collection of British honey to show the world what we are producing, and we shall be prepared to receive the criticisms which will doubtless be passed upon it. Had the opportunity been presented earlier, our exhibit would have been larger, and probably of greater excellence; as circumstances are, we shall do our best. Great Britain has a great future before it in regard to honey production; as yet we have only passed the threshold. Its possibilities are beginning to reveal themselves, the knowledge of the best method of bee-management is being spread, and the time is at hand when we must utilise every available means of husbanding our resources, albeit some of them are of a minor kind, and, it may be added, new markets must be sought.

Your correspondents must surely be suffering under the remembrance of some personal feeling of slight or disappointment, and, having in view the new protective tariff, deems it opportune to commence with sting and poison to create an irritation which may result in that which most of us would deplore.—JESSE GARRATT, *Meopham, Kent, November 15th,* 1892.

BEE-KEEPING IN ALGERIA.

[1235.] I have just returned from Alger, where I have seen M. Roux and M. Coquard. I have also seen your photographs of the different apiaries and think them superb. I am pleased to hear that you are going to send me some, at any rate I should very much like a photograph of my own apiary.

I take this opportunity to tell you about M. Coquard, who deserves much praise. I could do nothing but pay him compliments yesterday. He is an old hand at the bee business and not a novice. He is doing a great deal at the present moment for the development of bee-keeping in our country. I saw his apiary at the Roberseau, which he has recently established, entirely by himself, making his own hives with your standard frames. They are very well made indeed. He is also importing machinery for making bee-keeping appliances. I have ordered some things of him as well as from Mr. Blow. M. Coquard is also a honey merchant, and sells wax wholesale and retail. In fact he is thoroughly in the bee business.

M. Roux still continues to have a number of hives made and is passionately fond of bee-keeping.

As for myself I have taken to your frames, which permit me to equalise my colonies by giving brood or honey-combs, and also to make artificial swarms. I had not this facility with the hives that you saw at Staoueli-Trappe.

I have associated myself with M. Debouno, a proprietor of Boufarick, owning 24,700 acres of land, for the purpose of starting apiaries here. He purchases the bees in Arab hives, which I afterwards transfer to frame hives. We divide the proceeds, but all the work of taking the honey and all the care bestowed upon the bees is at my cost. The first expense of starting and the appliances, which remain the property of M. Debouno, are at his cost. As I am certain of the results we are sure to have imitators, when they can count up our proceeds. I will let you know later how we succeed. I will also send you a photograph of the first apiary that we are establishing, which looks very well. We have put up two rooms for extraction of honey and for sulphuring hives and combs, to get rid of wax-moth. The rooms are panelled, varnished, have ceilings, and are fitted with all the necessary appliances.

I shall always retain a pleasant recollection of the visit that you paid us.—E. Regnier, *Boufarick, Algeria, October 31st*, 1892.

HONEY BOTTLES.

[1236.] Last season I got several gross of bottles (screw-cap), many of which would have held eighteen ounces, so that I was obliged to weigh out every bottle when filling them. The consequence was that many were not filled above the shoulder, and the general appearance of them was not as it should be. A very good customer of mine, who gives me an order for 600 or 700 at a time, told me he much preferred a fourteen-ounce bottle, as he sold by bottles and not by weight, and his customers liked to see them full. Whatever my own feelings may be in the matter, I shall be obliged to use fourteen-ounce bottles another season, and I agree with Mr. McNally that it is impossible and unnecessary to adopt a "standard" bottle.—Arthur J. H. Wood, *Bellwood, Ripon.*

THE WELLS SYSTEM.

[1237.] As I am favourably impressed with Mr. Wells' account of his season's trial with his double and single stocks of bees, I intend, all being well, trying his system with two or three twin hives I have, holding twenty-four frames each, another season, and as he has kindly offered to answer any questions on the subject through the *Journal*, would he please explain how his double stocks are both provided with queens when he returns his swarms, as I understand the bees to swarm out simultaneously from each part of the double hive, and, of course, unite into one huge swarm? And, under such circumstances, I always find the swarms are almost inseparably joined, and generally one queen is quickly killed by the other; but if not killed, it is a very difficult matter to find each queen and separate the swarms. How does Mr. Wells manage this? The brood combs are, I note, all taken away before returning the swarms, so that in the event of one lot being queenless when returned, they could not raise a queen.—H. Neve, *Warbleton, Sussex, November 17th*, 1892.

WET EARTH A CURE FOR BEE-STINGS.

[1238.] Although wet earth has long been known as a cure for bee and wasp stings, very few persons seem to be aware of its value as such. The following example may interest some of the readers of the *B.J.*:—Four summers ago, at a picnic in the country, one of my boys found a wasps' nest, and must needs amuse himself pelting it with stones, resulting in his getting very badly stung in the face. Fortunately, I remembered having read of the wet-earth cure, and at once daubed his face with some mud from the road, with the happy result that in about fifteen or twenty minutes all the painful effects had ceased, and very little swelling remained. I have since then used this remedy when stung whilst manipulating my bees, and find it infinitely better than spirits of ammonia or other popular remedies, and the best of it is that it is always ready at hand.—J. F. R. Aylen, *Plymouth.*

PREVENTING SWARMING.

[1239.] Will the author of the articles on "The Science of Bee-keeping" in the *B.B.J.* kindly tell me how he keeps his bees in a non-swarming condition? The only plan I know of is to give plenty of room in the supers in advance of the bees' requirements, but it often fails with me.—Beeswing.

TWO QUEENS IN A HIVE.

[1240.] I have been greatly interested in Mr. Wells' description of two queens in one hive, which I think a decided improvement for many reasons. I should be much obliged if Mr. Wells would kindly answer, through the columns of your valuable *Journal*, the following questions:—1. What thickness is his perforated dummy (mine is one inch, but this I could reduce)? 2. How many perforations to the square inch in the dummy, and do they continue from top to bottom of the dummy? I have made my hive of two three-quarter-inch deal boards screwed together, with one-eighth-inch thickness of warm felt between, so that I have no fear of my bees suffering from any amount of cold.—H. S. Chapman, *Sandon, Frodsham.*

REPORT OF SEASON IN EAST CHESHIRE.

[1241.] The season in my district has been a very poor one. Bees were very strong and in good condition for the honey-flow at the end of June; but, alas! owing to extremely low temperature and wet, the clover never yielded well. A few bee-keepers, either through favourable situation—and it is astonishing how variable the weather has been in different parts of our county even—or through better management, have taken a little surplus, as much as thirty pounds of nice honey from one stock three miles from here I heard of; but for most it has been nearly a blank, and all have had to feed up heavily for winter. We do not, however, despair, and hope for a good 1893.—T. D. S., *Alderley Edge, November 11th*, 1892.

TECHNICAL INSTRUCTION IN BEE-KEEPING.

Lectures were delivered in Bedfordshire, under the auspices of the County Council, during October, at the following places:—

Silsoe (schoolroom); Chairman, Rev. C. H. Farmer, vicar.

Milton-Ernest (schoolroom); Chairman, Rev. J. J. Burton, vicar.

Turvey (schoolroom); Chairman, W. F. Higgins, Esq., of Turvey House.

Aspley-Guise (coffee-room); Chairman, Rev. B. Chernocke Smith, rector of Hulcote.

Marston-Moretain (schoolroom); Chairman, Rev. Dr. Wood, rector.

Blunham (schoolroom); Chairman, Rev. T. M. Berry, rector.

Haynes (schoolroom); Chairman, Rev. ——, officiating clergyman.

All pretty well attended except Aspley-Guise. Heartily welcomed at each place. Lectures much appreciated.

In some parts of Beds the farmers appear to be taking an interest in bees.—W. Rushton, *Lecturer.*

THE HONEY BEE.

The honey-bee, that wanders all day long
The field, the woodland, and the garden o'er,
To gather in its fragrant winter store,
Humming in calm content its quiet song,
Seeks not alone the rose's glowing breast,
The lily's dainty cup, the violet's lips;
But from all rank and noisome weeds it sips
The single drop of sweetness ever pressed
Within the poisoned chalice. Thus, if *we*
Seek to draw forth only the hidden sweet
In all the varied *human* flowers *we* meet
In the wide garden of humanity,
And, like the bee, if home the spoil we bear,
Hived in our hearts, it turns to nectar there.

—*Am. Bee Journal.* A. C. Lynch.

WONDERFUL WORK OF BEES.

Bees must, in order to collect a pound of clover honey, deprive 62,000 clover blossoms of their nectar. To do this 62,000 flowers must be visited by an aggregate of 3,750,000 bees. Or, in other words, to collect his pound of honey one bee must make 3,750,000 trips from and to the hive. The enormous amount of work here involved precludes the idea of any one bee ever living long enough to gather more than a fraction of a pound of nectarine sweets. As bees are known to fly for miles in quest of suitable fields of operation, it is clear that a single ounce of honey represents millions of miles of travel. It is no wonder that these industrious little insects have earned the reputation of being "busy" bees.

WOMEN AS BEE-KEEPERS.

The time has been, doubtless, and may be now, in some favoured localities, where large apiaries may be carried on successfully, but as our State becomes more and more densely populated, they will be more restricted. Our cities and towns are growing larger, and the land outside of them is being used for market gardens to supply the inhabitants with vegetables. Our natural forests are being cut down to make room for more towns or farms, and even our swamps and marshy lands are being drained and cultivated, and land is land, and must be made to yield something to enrich its owner. No more weeds in the fence corners!

With two such cities as Chicago and St. Louis to feed, our State must become more and more a garden State. What, then, is the remedy and hope for apiculture? It is with the farmers, horticulturists, and small bee-keepers; let them make bee-keeping a part of their stock-in-trade, not as a "side-issue," to run itself if it can, but with intelligence, improved method, and the right care at the right time.

But it might be said that swarming, putting on sections and taking off, comes just when a farmer is the busiest. Then let him do what has been done with marked success in many instances—bring out his wife or daughters to to help him. Let them have more help in the kitchen, and they will, when once they are educated up to it, be glad to make the change. It is for this reason I have consented to fill this place to-day.

My experience proves to me that women can be valuable helps in the apiary, and, if they choose, *can* carry on the work alone; but, as there is much lifting and hard work about it, I would have them fitted to take charge of the work, or "boss" it, and call in help when needed. Let them see what a perfect piece of art a section of comb honey may be, and they will be enthusiastic to produce something like. Let them have bee-literature, with the mutual benefit of exchange of notes and ideas, and *most especially an interest in the profits*, and instead

of the complaint that farmers and small bee-keepers break down prices, the State will soon depend upon them for its honey.

So, then, it may be that the great underlying hope of this most honourable industry, as of much that is good in the world, rests in our women. Give them a chance.—Mrs. N. L. Stow, *in "American Bee Journal."*

WEATHER REPORTS.

Westbourne, Sussex.

October, 1892.

Rainfall, 4·15 in.	Sunshine 123·6 hrs.
Heaviest fall, ·66 in. on 30th.	Brightest day, 23rd, 8·85 hrs.
Rain fell on 20 days.	Sunless days, 5.
Above average, ·36.	Above average, 2·9 hrs.
Max. temp., 57° on 29th.	Mean max., 49·8°.
Min. temp., 26° on 24th.	Mean min., 37·3°.
Min. on grass, 16° on 24th.	Mean temp., 43·43°.
	Max. barometer, 30·43 on 19th.
Frosty nights, 7.	Min. barometer, 29·36 on 7th.

All hives packed up for the winter, strong and healthy.—L. B. Birkett.

Earl Shilton.

September, 1892.

Maximum temp.,	5th	81°
Minimum „	18th and 29th	34°
Mean max. „	13th	68·6°
Mean min. „	22nd	49·3°
Mean „		59·57°
Rainfall		2·61 in.
Highest fall in 24 hrs.,	21st	0·8 „
No. of days on which rain fell		13
Prevailing wind for month		s.

October, 1892.

Maximum temp.,	5th	67°
Minimum „	26th	22°
Mean max. „	29th	55°
Mean min. „	26th	32·°
Mean „		44·3°
Rainfall		3·49 in.
Highest fall in 24 hrs.,	3rd	0·75
No. of days on which rain fell		21
Prevailing winds		N. & NE.

W. S. Fulshaw.

Queries and Replies.

[679.] *Preventing Infection.*—It is stated at page 80 of *B.B.J.* for February 12th, 1891, that most of our bees are transferred each spring into clean brood chambers, &c. I would beg to inquire if this practice should be usually adopted as a preventive against disease, and would kindly ask for a few instructions for manipulation, &c.—South Saxon.

Reply.—The statement referred to appears in our correspondence column, and is made subject to the usual reservation printed at the head of all communications inserted in that column. At the same time we may say there can be no objection to transferring bees and combs into clean hives every springtime, provided a double stock of hives are kept for the purpose. Otherwise we should not, while foul brood is so prevalent, advise interchanging hives unless the most scrupulous precautions are taken to avoid infection. If, however, you decide to follow the plan referred to, there is no better course of procedure than that described by our correspondent last year, the bees being transferred by lifting them out on the combs when the clean hives are ready for their reception.

[680.] *Space between Combs, Size of Hives, Re-queening, &c.*—Would you kindly answer the following queries through your valuable paper? I find that my bees have joined the top bars in the centre of the combs with brace combs. 1. Are the metal ends what they should be to regulate the distances properly? The bars are one and a half inches from centre to centre. 2. Is a hive which holds sixteen frames too large? It is on the combination principle. If too large, what size would you recommend? 3. Seeing that the queens in my two first swarms will be three years old in the coming summer, would you advise me to remove the queen before the hive swarmed; and as the hives are not quite filled with frames, should I add the remainder before the swarming season starts, or would it be better to wait until queen-cells are formed, then take the old queen and cut out all cells but one, and fill up hive with the remaining frames? I mention this because, owing to the poor season we have had, the bees have only drawn out eight or ten combs on the foundation. 4. Is three-eighths of inch sufficient space between bottom bars of frames and the floor-board? 5. What is the size of a section crate, inside measurement, to hold twenty-one sections with "follower" and spring?—James Finlay, *Grinkle Park, November 14th.*

Reply.—1. One and a half inches from centre to centre is the correct distance. Bees do occasionally build brace combs as described, which must be removed and the combs pared down, if needed, to the proper thickness. 2. Some prefer long hives for the purpose of having surplus honey stored on the same level as the brood chamber. It is a matter of preference on the part of the bee-keeper himself. Ten or eleven standard frames are, however, quite large enough for a brood chamber. 3. If re-queening is desirable, it should be deferred till sufficient brood is on the way to form the honey-gathering population for the season; otherwise, a loss of over three weeks' brood-rearing results while young queens are being raised and fertilised, and a consequent reduction

in honey-gathering. We should give a limited amount of surplus room, and allow the stocks to swarm naturally. When this occurs, remove all queen-cells except one good one, and return the swarm, capturing the old queen as the bees run into the hive. 4. Half an inch is the proper distance. 5. Twelve and seven-eighths inches wide by about fifteen inches long.

[681.] *Sulphur Fumes and Wax-moth.*—I am, or rather have been, troubled with wax-moth, through possessing a number of old combs that have accumulated. I find sulphur fumes have little effect on the larvæ of the moth. I put a body-box with ten frames badly infested with the pest alluded to in a large wooden chest, introducing a saucer of brimstone alight. I after a time shut the lid of the chest, and surely those grubs were fumigated. I kept them shut up several hours and then took the frames out, fondly thinking I had outwitted the vermin, but, looking at the frames a few days afterwards, I saw the yellow dust, betokening the presence of the larvæ, had recommenced to fall from the frames of comb despite the brimstone fumes. I shut the frames up then in a box securely air-tight or its lid fitting on very nearly so, and I kept the box closed for six or seven weeks, opening it to-day. Numbers, some scores, of moths had hatched and were lying on the bottom of the box, which was covered a quarter of an inch deep with a yellow powder. I take it the larvæ live on the old pollen in the combs, and not on the wax. None of the wax was eaten in the combs that I could see, but all the pollen was gone. Why is the moth called the wax-moth? Is it supposed to eat the wax or merely to infest wax-combs? What is its scientific name?—AMANISHAH, *North Devon, November 15th.*

REPLY.—The "yellow powder" referred to is not caused by the wax-moth or its larvæ at all, but is the result of the combs being infested with what is known as the *pollen mite*, a very minute, round insect, found in pollen and other nitrogenous substances. The larvæ of the wax-moth (*Tinea Mellonella*) does consume wax, the midrib of combs infested by them being frequently eaten completely away. We can hardly think the fumigation was as thorough as you supposed it, as sulphur fumes are known to kill both the moth and its larvæ.

[682.] *Buying Foul-broody Stocks.*—I purchased a stock of bees last week on condition that they were in good health. When weather permitted I inspected the same and found them (as I thought) in a bad state. I send a sample of comb cut from the hive. Will you kindly inform me if they have foul brood, and if I should destroy both bees and hive? I might add that the stock is very weak, not more than a handful of bees in all.—T. E. A., *Nov. 15th.*

REPLY.—Comb sent is badly affected with foul brood, besides being infected with the larvæ of the wax-moth. If there is only a "handful of bees" in the hive such a stock is less than valueless, and should be promptly burnt or destroyed. The seller must surely have been ignorant of its condition to offer such a stock for sale.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

ERRATUM.—In Mr. Grimshaw's letter (1227, p. 451) by a printer's error the name of Mr. Jemeison, Local Secretary and Expert of the Association, is printed Emerson.

REV. R. W. OLDHAM (Barnstaple).—*Lantern Slides.*—Two queens were supplied to Messrs. Newton for the purpose of being photographed, one of which was larger than that you refer to. We suppose, however, that Messrs. Newton, possessing more knowledge of lantern slides and photography than they pretend to do of bee-keeping and queen-bees, selected the one most successfully "pinned-out" for them. It is not easy to so arrange the body and limbs of a dead bee as to present the appearance of life. This has been fairly well accomplished in the one photographed to which you take exception, and hence the preference for it. Besides, it must be borne in mind that a queen-bee shrinks considerably in size after death. If you can render any help by pinning out a queen such as you desire to see on the slides, we are sure that Messrs. Newton will gladly prepare a slide from it in lieu of the one now issued by them.

J. W. NELSON.—Refer to *B. J.* for February 12th, 1891 (pp. 73-4). In the series of articles entitled "Bee-papers for Winter Reading" therein will be found full particulars for packing honey for sending by rail, &c.

W. J. BATES.—Comb sent bears no trace of foul brood. You did well, however, to feed with medicated syrup, and we should also advise the use of naphthaline on floor-board for winter, as there is a little chilled brood in cells.

H. SMITH.—The best food for bees at this season is soft candy, not syrup.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

*** *Several articles, queries, &c., are in type, and will appear next week.*

THE

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BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

HONEY FOR CHICAGO.

We invite attention to the date up to which honey intended for Chicago may be sent to our office, and to further particulars of the competition for prizes as per advertisement on opposite page of this issue. So far as we can at present say, something over 600 pounds of honey has been either sent or promised, and there is little doubt that this amount can be increased to 1000 pounds by a little effort; but such of our readers as intend to compete must bear in mind the time beyond which no honey can be received, viz., December 20th next.

As some misunderstanding appears to have arisen, owing to which honey is being sent to Kings Langley, we must again impress the fact on intending donors that all honey for Chicago must be forwarded to 17 King William Street, Strand, W.C. Due notice will be given when and where the honey will be on view after the prizes have been awarded.

BRITISH BEE-KEEPERS' ASSOCIATION.

Conversazione—Discussion on Foul Brood.

(*Concluded from page* 458.)

Mr. Cowan said the question of foul brood was brought before the B.B.K.A., and thoroughly discussed, some time ago, when it was decided to bring the matter before Mr. Chaplin, with a view to obtaining a law providing for the inspection of hives, just as there exists a similar provision with regard to cattle. The Secretary was directed to write to the secretaries of Associations and collect statistics, as it would be necessary, before approaching Mr. Chaplin, to be well armed with proof that foul brood existed, where it existed, and to what extent. At this stage the investigation broke down, because, although it was well known that foul brood was largely prevalent, still the local secretaries were unable, from some cause or other, to gain the required information in definite form. Some secretaries said, in reply to the questions put, that no foul brood existed in their counties, while both he and Mr. Carr, from private sources, knew to the contrary, and could even put their fingers on the particular places where the contagion was rife. Thus it was impossible to go to the Minister of Agriculture and ask for a law to exterminate that which they were unprepared to show had any existence. He (Mr. Cowan) knew the cottagers were very difficult to influence, and he feared there was no way of exterminating foul brood without compulsory powers. The Associations could not deal effectually with the evil, because they had no power to compel bee-keepers to receive the visit of an expert, and to destroy any of the bees should the expert condemn them. A good deal might, perhaps, be done by a system of insurance, but it must be remembered that such agencies are voluntary ones. Bee-keepers were not compelled to insure; only a certain number would insure; consequently the remedy could not possibly be effectual. He thought the best thing was to teach the use of preventives. All the cures that had been mentioned were efficacious if properly applied. The old remedy, salicylic acid, was very good; but it was not used now, because there were other remedies more simple and equally efficacious. Phenol was only abandoned for the same reason. Naphthol and naphthaline were much more simple to administer, and were moreover non-poisonous, and that is why they have taken the place of other remedies. If such preventives were generally used, foul brood could be defied; but, if neglected, and the disease was prevalent in the neighbourhood, it was very likely that the locality would in time become saturated with the spores of foul brood, and it was practically impossible to prevent a hive which was so surrounded by poisonous germs from becoming infected; and even when a new and clean hive had been substituted, there was every chance of infection taking place if preventives were not used, because the undestroyed germs were present in the vicinity. Preventives hindered the development of these germs or killed them as

fast as they appeared. That was the *rationale* of the treatment. Many years ago he had forty hives badly diseased, and after several years of treatment he cured them of foul brood. At that time foul brood existed largely in his neighbourhood, and he took diseased hives from his friends, placed them in his own apiary, and cured them, fearing no infection while he used preventives. Mr. Carr was dealing with foul brood every day, yet his bees remained healthy. Of course, he took care to disinfect his hands and clothing. He (Mr. Cowan) remembered being at a meeting at Milan once, when the question of the phenol treatment came up for discussion. M. Tartuferi, who had 1000 hives, pooh-poohed the whole thing, saying, "What do we want with phenol when we have salicylic acid? I don't care for foul brood while I have salicylic acid." And if that remedy failed, it was only because it had not been properly followed up. It should be borne in mind that curing was not everything. Diseases broke out again after cures had been effected, and that was eminently the case with foul brood, which fact showed the value of preventive measures. He thought naphthaline the most suitable; camphor answered very well, but naphthaline was less than half the price of camphor, costing only a small sum per pound. He would be delighted if steps could be taken to stamp out the disease, but without Government aid he was afraid it was impossible.

The Chairman said his residence stood on a hill, but was only fifty or sixty feet above sea-level. There had been a great deal of foul brood in his neighbourhood, and he had had three or four hives more or less affected. Strange to say he had attempted no cure beyond keeping the stocks as strong as possible. The disease gradually disappeared and his bees had been well ever since, notwithstanding the prevalence of foul brood in the district. He hoped Mr. Cowan would remember that he was not one of the secretaries who had sent in a defective report on foul brood, but that his statemant was full and exhaustive. He thought the reason why his county was able to secure better information than others was because it had been worked on the district system for a long time. The county was divided into three provinces, and each province into six or eight districts. Each province had a secretary, and each district also. Thus information was always forthcoming, which could not be got in any other way. He thought if any remedial plan were tried it could be best carried out by existing secretaries. He agreed with Mr. Cowan that the most effectual remedy was only possible through Government help.

Mr. Cowan felt that some credit must be given to County Associations for the fact that foul brood was not so prevalent where they existed as in counties where there were no such organizations. The best returns were from Middlesex and Kent. In regard to the question of altitudes, a gentleman in the Chamounix Valley had followed the course of foul brood for some years, and traced it up the side of the mountain, where it abruptly stopped, and its course was diverted, as it appeared, by a wind current.

Mr. Blow was surprised at the difficulty experienced in gaining statistics from the counties. In the early days of the Herts Association he visited about ninety per cent. of the bee-keepers in the county, and drew up a census of the bees, number of stocks, and bar-frame hives.

Mr. Cowan observed that it was not members of Associations who were difficult to approach, but cottagers who were non-members.

Mr. Till thought the difficulty alluded to by Mr. Cowan could only be got over by the appointment of district secretaries. He had been urging that in his own county of Kent, but there was always a dearth of co-operators, and the work was too much for one person to do. Statistics could be obtained freely enough where there was good organization and proper co-operation among the members, and once secured there would be little trouble in keeping them up from year to year. He advocated the publication and boycotting of those districts where foul brood was chronic, because the bee-keepers there would not take the trouble to use preventives. It was quite possible, he found by computation, to produce in Kent 400 tons of honey per annum, yet only seventy tons were forthcoming. Thus the food supply of the county was deficient through want of organization. After some further desultory conversation the subject closed.

Mr. Cowan exhibited some hives which he had brought from Africa, and which were specimens of the contrivances used by the Arab bee-keepers in Tunis and Algeria. He also showed a series of photographs which he had taken of apiaries visited by him in North Africa, as well as a large case of bees, showing queens, drones, and workers, collected by him in different parts of Tunis and Algeria.

With regard to the hives on the table, one was made of cork bark, and was about three feet long. Mr. Cowan said the way it was obtained was by cutting the bark of the cork-tree horizontally, and making a slit right down between the two horizontal cuts. The bark was then peeled off and tied together with cord, as seen in the specimen. Such hives were used mostly by the Kabyles, who cultivate bees on a large scale. The nomad Arabs both in Algeria and Tunis generally had cylinders made of basket-work or the flower-stem of giant fennel. Mr. Cowan pointed out how ingeniously these stems were put together in the specimen which he exhibited, and its rigidity. The marks of the combs could be seen in these hives; but it was rather curious to note that, although some of them were parallel to front, others ran at an angle. These hives were laid horizontally, and a piece of board was placed at the ends. The Arabs were not at all particular about this fitting, so that the bees would get out anywhere in front, the back board being kept closed with mud. In one of the photographs one of these

hives was seen with a stick placed against the board to keep it in position. As would be seen, the hive is covered with a mixture of mud and cow-dung. In some places he had seen the ends of the hives carelessly closed by means of a leaf of the prickly pear, a cactus which grows to a very large size, and is quite a weed in Africa. He had seen hedges of it twenty feet high. When the Arabs wished to take the honey, they removed the board at the back of the hive, and drove the bees forward by means of smoke produced from burning dried cow-dung, which emitted a rank odour. The combs were then cut out, the hives turned round, and, after a time, the empty space in front would be filled with new combs, while most of the brood would be hatched out of those at the back, when the Arabs would remove them in turn, the smoking process being repeated as often as necessary. The larger hives would hold about a bushel.

The Arab honey was not at all palatable, such as you saw it in the bazaars. It was dirty and unpleasant to look at, frequently in a ferment. The custom was to crush up the combs in the hands, regardless of what they contained —honey, brood, or pollen—and the mass so obtained was called honey. The Arabs consumed a large quantity of honey, and purchased of Europeans good extracted honey; but this honey, which they call "Christian honey," they do not like so much, and will not give such a good price for, as for the native produce. With regard to the bees, Mr. Cowan stated that throughout Tunis and Algeria there is only one variety of honey-bee, and its character throughout the countries was the same.

Mr. Hooker and Mr. Blow asked if Mr. Cowan had not found these bees bad-tempered.

Mr. Cowan said he had, and in one of the photographs which had been passed round would be seen two bee-keepers manipulating a hive. It would be noticed how the bees were boiling over, and he would ask them also to notice how the bee-keepers were protected from head to foot. This gave an idea of how experienced bee-keepers in that country manipulated their bees. He had a good many more photographs of Africa which he would show on some future occasion.

Mr. Cowan was then thanked for his exhibits and explanations, and with a vote of thanks to the Chairman a very agreeable and profitable meeting was brought to a close.

MR. ROBERT McKNIGHT.

A good many of our readers will remember Mr. Robert McKnight as one of the Canadian delegates to the Colonial Exhibition. When we were in Canada we stayed for some days with Mr. McKnight, and shall never forget his genial hospitality. At that time Mr. McKnight was one of the leading bee-keepers in Canada, and since then he has remained in the front rank, and it is with considerable pleasure that we read that his services in furthering the bee-keeping industry have been recognised in his own country. We extract the following from the *Owen Sound Times* of November 3rd, which will explain the pleasant manner in which the Ontario Bee-keepers' Association expressed their appreciation of Mr. McKnight's services: "Mr. Robert McKnight, registrar for the North Riding of Grey, was the recipient of a valuable present from the Ontario Bee-keepers' Association on Monday last, in the shape of a valuable gold watch of beautiful design. The following inscription was on the inside case: 'Presented to Robt. McKnight, Esq., by the Ontario Bee-keepers' Association, in appreciation of efficient services rendered to apiculture.' No formal address accompanied the watch, the presentation being made upon a resolution passed at the last annual meeting of the Association. That he is well worthy of this mark of appreciation no one will doubt. Since the inception of the Association he has been identified with its management, in fact, he was the chairman of the meeting called for organization. Since then he has filled the office of president, vice-president, treasurer, and secretary, and member of the executive committee. He was also one of the delegates who accompanied the apiarian exhibit to the Colonial Exhibition."

We heartily congratulate the Ontario Bee-keepers' Association, of which we have the honour to be an honorary member, on the way in which they have chosen to mark their esteem, and we take this opportunity of making our readers more intimately acquainted with Mr. McKnight by giving a few incidents of his life.

He was born in 1836 in County Down, Ireland, and left there for Canada at the age of nineteen, arriving at New York in the latter end of June after a voyage of six weeks. He found his first employment in a sawmill at Tossoronto, County of Simcoe. With indomitable perseverance and industry quite characteristic, he was not long in rising, and in six months we find him at the top, taking charge of the mill, which was conducted by him for three years. In 1860 he left the mill and took charge of a school at Essa for three years; for another three years a school at Tecumseh was under his charge, during which time he secured the highest grade of a first-class teacher from the County Board. He then entered the military school at Toronto and in the following year obtained a cadet's commission. He then turned his attention to business and opened a general store in Markdale, and after two years removed to Cookstown, where he added the drug business to the other. He married Miss McLean, of Elm Grove, and in the spring of this year his store and dwelling were completely destroyed by fire. He, however, paid all his liabilities and in the following year opened a drug and grocery store at Meaford. Here he was not long before he became one of the most enterprising citizens, taking an active part in all that concerned its interest. Three years later he was selected by the Reform Convention of East Grey to contest that constituency, but was defeated by 600 votes. At the next election he

was again chosen but was unsuccessful, as also the third time, but although handicapped by having the popular editor of the *Owen Sound Times* against him, he reduced the majority to fifty-nine votes. Shortly after this contest he was offered the Registrarship of the County, which he accepted and has retained ever since.

At Owen Sound he soon became appreciated, and took an active interest in the place. At the time of our visit, he was President of the Mechanics' Institute, member of the Boards of Education, Health, and Trade, and an active member of the Masonic fraternity.

His perseverance has also resulted in his success as a bee-keeper, and to the position he has attained in this pursuit. He has had about twelve years' experience, and is a good specimen of what the practice of the modern school of bee-keepers, unbiassed by old-fogey notions, can accomplish. He has been one of the leading spirits of the Ontario Bee-keepers' Association, and was present at the first convention at Toronto, where it was organized. For two years he was its Secretary and Treasurer, and on him devolved the organizing of the work of the Association. During this time he edited the bee-department of the *Canadian Farmer*. The following year he was elected President, and has been on the Executive Committee ever since. He was appointed one of the delegates to represent Ontario's honey display at the Colonial Exhibition in London in 1886, and it was here that we first made his acquaintance. To him was left the management of the display, which was such an attractive feature of the exhibition. While here, he made many warm friends, and it was with much pleasure that we, in the succeeding year, visited him in his home in Canada. Mr. and Mrs. McKnight did all in their power to make our visit agreeable. His apiary at that time numbered 200 colonies, all in excellent condition, and showed the skill with which he had attended to them. He was President of the Reception Committee that gave us such a warm welcome at Toronto, where he, on behalf of the Ontario bee-keepers, presented us with an address and a gold-headed walking-stick. We shall always look back with pleasure to this meeting with our Canadian friends. Besides taking an active interest in the Ontario Bee-keepers' Association, Mr. McKnight is a frequent contributor to the pages of the *Canadian Bee Journal*, and is also known as a correspondent to our columns. He has recently become the editor of the bee department in the *Canadian Horticulturist*. We hope there may be many years of happy life for Mr. McKnight, and that he will continue the same energy in promoting the advance of bee-keeping in Canada. The presentation which has just been made is a well-merited reward, and we, on this side, offer him our hearty congratulations.

A BEE EPISODE.

The pedestrians and others who were on the Trent Bridge on Friday evening had an unusual, and not altogether agreeable, experience. It seems that some lads were transferring a bar-framed beehive (occupied by a very strong stock) to another part of the town; in fact, so strong were they, that the bees were working at the time in a super full of sections. All went well until they got about a quarter of the distance across, and the passers-by saw nothing particular in the load to cause much notice. However, by some means the piece of rag which was put in the entrance got loosened, and as bees naturally make for the light, one or two of them went out to see what was going on outside. The first object which attracted the busy little creatures' attention was the individual holding the handles of the truck, and he, thinking that (in)-discretion was the better part of valour, made himself scarce. The rest can be imagined: up went the handles, and the bees were in the road. They did not stop there long, however, but soon found a way out, and then the fun began—for those at a distance. The business ends of these very busy bees were at work in earnest at all in the vicinity, without the least respect of persons. The people were scattered in all directions, and those who could run fastest got off best. The "cabbies," too, who had to pass the spot utilised all their available broadcloth to protect their heads and faces. The hive was in a sad state, for the bars, sections, brood, and honey were strewn in the roadway, and it was an astonishing thing if "her majesty the queen" escaped with her life, for hundreds of bees were killed, and hundreds were lost. It was late in the evening before they were removed to a place of safety, and the loss at this time of the year, from a bee-keeper's point of view, is rather serious.—*Burton-on-Trent Chronicle.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[1242.] November, 1892, has been true to its character as the dullest month in the year. Day after day has been foggy, the distant hills have been enveloped in a thick cloud, and the only thing which has demonstrated that the busy world

beyond our circumscribed horizon was going on as usual was sound: the distant trains, the shrill whistles, the still louder hooters, have all seemed so very near that one was led to believe that the "World's End" was not very far from the centre of civilisation. The dull days have been mild ones, and the bees have been able to take an airing every day. Yesterday we had a regular downpour of rain for a few hours, and then the thick, heavy cloud lifted from the west, gradually leaving the sky clear, and we got the first glance at the new moon. To-day has been clear and bright, with a temperature of 76° in the sun, and the bees in the apiary have been busy taking a flight, and clearing out *débris* and the dead.

I am glad to see the subject of foul brood taken up by the British Association at their *conversazione*, and trust good will result from it. I notice some of the speakers on the subject are not very hopeful of any notice being taken of our Bee-keepers' Associations by the Government; that I think will depend on the isolated or concerted action of the various Associations, if we utilise the grants from County Councils in the advancement of the craft to the satisfaction of the County Councils. Many members of Parliament are also members of County Councils; thus we shall be initiating them in the knowledge of the work of the Associations, and of the benefit to agriculture, horticulture, and floriculture the various Associations are in fostering the keeping of bees. The bee-keeper keeps bees for the honey he hopes to get by so doing, but in his pursuit of gain he confers incalculable benefits on his neighbours around; in fact, his bees scatter blessings wherever they go in quest of honey and pollen.

The farmer gets increased crops of farm seeds —in fact, I question if agriculture could be carried on at all if it was not for the help of the busy bee; the orchards are laden with fruit, the bulk of the fertilisation of the flowers being done by the busy bee, *Apis mellifica*—other races of bees are in such small numbers during the time the fruit-trees are in bloom that only a small proportion of the flowers could be visited if it were not for the teeming colonies of hive bees. The same with the myriads of blossoms of early-flowering plants, which would gradually die out if the fertilising agent were allowed to die out also. Then, if all these things are true, and they have been proved to be so over and over again, ought not the Minister of Agriculture to take the wellbeing of the busy bee under his fostering care?—and if the *genus* is subject to infectious diseases, they should be incorporated and placed within the action and reach of the Contagious Diseases (Animals) Act, and where an inspection by a qualified inspector proved the existence of foul brood in a hive, and the bees were condemned and destroyed, there should be compensation given to the owner to two-thirds of the value of the destroyed stock.

I trust our friend, Mr. P. Bois, will give his method of preventing swarming in his large apiary for the benefit of the craft.

New Cure for Bee-stings.—Take carbolic acid one part, water 300 parts, then stir in a tablespoonful of salt, keep the mixture corked, and apply when stung. This is said by Mr. J. B. Adams, Bee-inspector of Boulder County, U.S.A., to be a perfect cure.

I notice another of the minor industries, viz., poultry farming, is suffering from an epidemic in Hunts and Northants which threatens to exterminate their stock.—W. Woodley, *World's End, Newbury.*

IN THE HUT.

"Strange all this difference should be
'Twixt Tweedle-dum and Tweedle-dee."
Byrom.

[1243.] So it seems to me when reading the recent correspondence concerning the colour of honey. If competing honey be first class in flavour, in clearness and consistency, the colour will appeal to the judge's eye for decision, and after his eye to the public eye for confirmation. It is contained in a nutshell (I mean the argument, not the honey nor the eye). And, talking of contents, brings me by an easy step to bottles —glass honey jars. Without entering into either controversy—to do so under a *nom de plume* were invidious—perhaps you will pardon "X-Tractor" if he says this much—plain, clear, and regular uniformity of vessels containing competing exhibits must commend itself to the eye sensitive to fitness. Irregularity and variety are the opposites, and would be desirable if the show, instead of for honey, were for bottles. Whether round, six-sided, or square should be settled as an approved and recommended Association standard both as to shape and size of jar, makers of jars, dealers, and exhibitors would then know what to safely keep in stock, and what will be satisfactorily staged at shows. The poor bee-keeper who carefully weighs every halfpenny would then be in more ways than one upon the same level—the same footing (no, that won't do; I mean the same platform, the same staging) as his competitor who can afford more expensive bottles. Fancy bottles would properly come in in trophy exhibits. If it is to be a flower show, let us have a sort of uniformity of tree pots, and at a poultry show let us have a similarity of the pens.

"What's in a name?" A good deal, Mr. Shakespeare, as many thousands of named and nicknamed people know to their sorrow. This brings in mind a parody of the *Castanea* joke —the chestnut—When is a honey bottle like a gate? According to Webster, a bottle is a narrow-mouthed vessel, and a jar is a deep, broad-mouthed vessel. Now, as these definitions accord with "English as she is spoken," why not make at least one advisable alteration in bee-keeping nomenclature? "Dummy" is another misnomer, and seems more applicable to the *genus homo* itself than to a part of the hive. I remember strong objection to this word was made by the late Rev. George Raynor. Division-

board was the preferable alternative. "Section" is a term that does not sit well. It is not a section of anything nor a part separated from the rest. It is a thing complete in itself. "Section-crate" is equally faulty. How would it be for the B.B.K.A. to take such words as these into consideration and give us better ones?

Referring again to standard honey glasses or jars. It is a common thing at shows to be asked, "How much per pound is it? How much do the jars hold?" and so on. We profess to give a pound of honey for a given sum, and certainly tell inquirers there is about a pound in each jar. Now, if we had an authorised standard jar it would be an easy thing to have one holding one pound up to the neck line. True, the varying density of different honeys is against having a fixed standard bottle, but on the other hand it is not pleasant to think our honey will be "weigh'd in the scale and found wanting."

> "Poetic Justice, with her lifted scale,
> Where, in nice balance, truth with gold she weighs."

Honey is generally sold at per pound, and if our jars are *bought* as pounds, presumably, *they ought not in honesty to contain less.*

I should not feel that a "Hut" article was complete without containing one of "X-Tractor's" dodges. This winter I have bought for each hive an empty American bacon box—how can I put it properly? The lid is off (off into the chip cellar), and a piece of the end is knocked out so that when the box is put over the hive the alighting-board and porch are free. These thick boxes are saturated with grease, and turn the rain, &c., splendidly. I hope to find my bees have wintered well under this capital hive cover. They (the boxes) cost me 1*s.* each, and are worth that much for firewood; they should save me their cost in winter stores economised. I care more about preventing the radiation of heat from the hive than for the turning of rain. When snow comes and lays thick on my hive covers, I shall find a shilling's worth of comfort in the reflection that each hive has a "Hut" of its own.—X-Tractor.

THE TWO QUEENS IN ONE HIVE SYSTEM.

[1244.] Referring to Mr. Wells' letter *re* the two-queen system, may I say that the principle of two queens in one hive has been adopted by me for the last five years, and that I exhibited a ten-framed hive at the Windsor Show, in which five spare queens could be kept through the winter for use in the following spring. The hive was passed over by the judges as useless, as no mention was made of it in any report of the show that I saw, therefore I did not again exhibit it, though not without hoping that some one would eventually find out the advantage of the principle, and that I might then have my "buzz." Now, however, that Mr. Wells' letters have been made public, I think I may be allowed to give my opinion, seeing that I have kept the hives in use ever since, and have one at the time of writing with two queens in. I became convinced that two queens would live in one hive during my experience in driving bees from straw skeps in the course of my work, for I found two queens in one skep living apparently in health and good temper, with no disposition towards fighting. This set me thinking that if two queens would agree in a straw skep why should they not do so in a frame hive? This happened in the autumn of 1885. In the following year I had an exactly similar experience, and at once decided to put two stocks of driven bees into one hive, dividing them with fine perforated zinc. To my surprise this double stock got on well—so well that I decided to again divide the hive, so that I could put in five queens in the several compartments. Within two weeks of the time of introduction all five of the queens were breeding, and when the bees were allowed to run together there was no fighting. Not being content to keep this discovery to myself, I determined to call in the late Mr. S. Stuterd and Mr. J. W. Symington, who both saw all five queens with their brood, and the bees mixing together without quarrelling or upset. Both gentlemen expressed their surprise and pleasure at my success. All the queens lived through the winter, and four of them I sold at 5*s.* each in the following March and April, so that my first venture with multiple queens was a paying one. And I believe that the two-queen system will be eventually adopted by every bee-keeper who wishes to be successful. If there should be anything not understandable in the above I will try to make it plain to any one interested. Wishing success to the two-queen principle and to Mr. Wells,—John Perry, *Banbury.*

STANDARD HONEY BOTTLES.

[1245.] I am not disposed to enter into a lengthy argument with those who object to be compelled to *sell* a standard weight of honey in their bottles. Looked at in the light of principle, the question admits of no dispute. When bottles, designated, as they are, one pound or two pound, contain less than sixteen or thirty-two ounces, the same considerations apply as in the case of a baker whose four-pound loaf is less than sixty-four ounces. If personal law fails to convince or compel obedience in this respect, legal law must come to the rescue; and I have no doubt that by-and-by it will be drawn more tightly in this direction than it is at present. Till then Mr. T. D. McNally and those who agree with him undoubtedly have "a perfect right to think for themselves . . . in selecting a suitable honey bottle," and, "as tastes differ so much," it is possible some will continue meanwhile to select those not of full capacity. But I protest against Mr. McNally saying (1221, p. 448), "You cannot have both *quantity* and *quality.*" (The italics are his.) If *he* cannot give both, will he explain his difficulty and say why? Again, in the same letter, it appears to

be a fair inference that your correspondent sees some mysterious difficulty in getting "bad and indifferent" honeys into under-capacity bottles, a difficulty that would disappear if each bottle held sixteen ounces. Will he please kindly tell us how this can be?—EAST LOTHIANITE, *November 19th*, 1892.

THE TRUE HISTORY OF A STRAW SKEP.

[1246.] I am sending you the history of a skep operated on and managed by me for a friend; perhaps it may be of some interest to others. This skep was given to my friend in the autumn of 1889. I was asked to see it and to give my opinion as to whether it would be worth bringing home. I said, "Bring it and we will see what we can do." The hive was standing on a large slate, where it had been for years, without any covering, and reduced to less than half its original size by decay, several of the lower rings of straw forming the hive having rotted and melted away, and each comb rested on the stand. In fact it was in such a state of dilapidation that it was necessary when removing the hive to bring away the stand also. It was transferred in the night from its old to its new location, about two miles distant. The first fine day after we turned up the hive, several pieces of comb, as well as the rotten part of the hive, adhering to the slate; there was, however, a nice little lot of bees and some stores. We cut away all the bad part of the hive and comb, &c., got an old skep and cut about five inches off, thus forming a riser or "eke" on which we placed the skep, after satisfying ourselves this added piece was exactly the same size as what remained of the skep. We then fixed up a stand, placed the bees on it, and made all dry and warm. The bees came out all right the following spring and were very active every fine day. We next got a board, $15 \times 14\frac{1}{2}$ inches, made the conical or dome-shaped top of our hive flat with mortar, &c., cut a hole in centre of board and a corresponding one in top of hive, fixing all secure and making it as near air-tight as we could. This board was capable of holding a crate of eighteen one-pound sections, and we contrived a roof which covered all securely. Having made this top and placed it in position, we were able to feed with syrup as soon as the weather answered.

The season of 1890 was only a poor one; however, my friend secured a crate of eighteen well-filled sections, the first sections ever produced from an old-fashioned skep in this part of the country. The bees went into winter in good order, and came out in the spring of 1891 in very good form. We placed our crate of sections on about the last week of May, which were filled and removed about mid-June. The old skep then presented such a shrunken appearance that, to save it from collapsing altogether, we procured a large flat-topped skep with centre hole, which we fitted with frames and foundation starters (not movable). We placed the old hive on top of the new one, and caused the bees to pass up through the new one, with the result that bees, queen and all, set to work in the new hive almost immediately. At the end of August we drove the bees out of the old or top hive, and united them to new one; not a single grub or young bee was found in the old hive. The season of 1891 having now closed, my friend was well satisfied, having secured one crate of eighteen sections and about twenty pounds of good old dark honey, while the bees were now housed in a sound new hive. After being fed up in their new hive, the bees went into winter in very good condition, and when the spring of 1892 arrived, they came out in full force every fine day. We gave a crate of sections about the 20th of May, which were fairly well advanced when we placed another beneath; but the weather broke up early in July, so my friend had to be satisfied with a dozen sections fit for the show table, and another lot not so well finished. I have now only to add that this hive has not swarmed since it came into the present owner's possession.—M. K., *Co. Kilkenny.*

ONE MORE FROM BUCKS.

A GOOD HARVEST IN 1892.

[1247.] Not having contributed anything to the *B. J.* for some time, and having received much valuable information in the six years of my bee-keeping from its pages, I feel it my duty to say a word to encourage younger bee-keepers. I began the year 1892 with four frame hives. They came through the winter very strong, and they got well to work on the fruit blossom, and that gave them a good start. My results from the four lots are as follows:—No. 1, 96 pounds of extracted honey; No. 2, 110 pounds of extracted and a swarm (the only one I had); No. 3, 84 pounds in surplus boxes; No. 4, 105 pounds in ditto. I have packed them all up snug for winter with plenty of bees and food, so that I can rest content till the spring of 1893.

I have read with very great interest Mr. Wells' experiences with his new system, and I think no one can say but that it is a perfect success. May he have as good a harvest next year. I mean to try the plan, although I consider I have done well with one queen in each hive. I have found there is nothing like young queens to head stocks. Mr. Woodley, in his "Notes by the Way," has given us young bee-keepers much valuable advice. I should feel pleasure to have a long talk with a man of so much experience.

On the question of fourteen-ounce bottles, my experience has been quite different from that of your correspondent, Mr. Brown (1225, p. 450). My customers ask for a one-pound bottle of honey, and when I cannot make bees pay by serving them with one-pound bottles I will turn bee-keeping up, as I consider it will not do bee-keeping any good to act otherwise than as I do.—A. NICHOLLS, *Bucks.*

THE SEASON IN OXFORDSHIRE.

[1248.] Although I have not so large a take of honey to report as your last correspondent from mid-Oxon, yet I have had a very fair one, considering the season. From sixteen frame hives and four skeps I have had 630 pounds of honey (mostly extracted) and ten swarms, eight of which came from the skeps, and have now thirty-eight stocks all in fair condition for wintering.—C. B. BARTLETT, *Witney, November 20th.*

[Replies to your queries appear on another page.—EDS.]

TWO QUEENS IN EACH HIVE.

[1249.] I am very pleased to see that Mr. Woodley means to try the "Wells" system by the aid of twin-hives, as, if circumstances permit, I am very much inclined to do so myself. Before, however, experimenting, I beg leave to submit to you and your readers my proposed *modus operandi* for criticism, favourable or otherwise. A twin-hive, capable of holding twelve bars in each compartment and fitted with the orthodox perforated division-board, will be provided. The alighting-board will extend along the whole length of one of the *long* sides of the twin-hive and *so will the entrance too*, which will thus be about thirty-six inches long, but a strip of wood twenty inches long will be made to close the middle portion of the entrance, leaving an eight-inch entrance at each end of the hive front. Of this strip more anon.

To stock the hive, two single hives standing side by side, and having from eight to ten seams of bees, will be selected, and *one* of them "walked" till the entrances of the two are about thirty-six inches apart, as are those of the twin-hive. So soon as the bees of the "walked" hive have marked their new locality, and on a warm afternoon to avoid chill, the two stocks will, after being thoroughly quieted, be moved from their stands, and the twin-hive set in their place. The bees and bars will then be lifted carefully from each stock and placed in the separate compartment provided for it. In placing the bars, those containing brood and stores will be placed next the perforated division-board and the empty and unoccupied ones next the entrance. The bar at each end will be all the better if fitted with an inch starter, as it will then be possible to dabble a little in Mr. Simmins' method of swarm-prevention. After covering down so to be safe against strife overhead, a partition will, if thought necessary, be placed midway between the entrances, and extended from the porch to the alighting-board. And now for the aforementioned strip of wood. After a few days, the strip will be carefully removed so as not to disturb the bees, two pieces each two inches long will be cut from it, and the remainder replaced in the middle of the long entrance. Then one of the two-inch pieces will be used at each end to close up part of the entrance. This process will be repeated as often as may appear desirable until the whole of the strip is consumed. The entrance will then be a sixteen-inch one in the middle of the hive front, and the hive very much like a "Wells" hive.

If the foregoing plan prove practicable, all the time, risk, trouble, and room required in raising nuclei will be saved.—E. B.

Queries and Replies.

[683.] *The "Wells" Division-board.*—Would you kindly say how *thick* the division-board should be between two lots of bees in one hive after Mr. Wells' system, and how perforated?—J. B. G., *Ealing.*

REPLY.—The dummy or division-board used by Mr. Wells is less than a quarter of an inch thick, the perforations being made by a hot wire pushed through the wood. The size and number of the perforations and the method of boring the latter are matters which may be left to the maker, but a fairly good-sized perforation—so long as a bee cannot pass through—and plenty of them, will, in our opinion, render the division-board more effective. If the perforations are too small there is an increased chance of the bees propolising up the holes.

[684.] *Food Consumed in Winter by Single and Double Stocks.*—1. Would your correspondent, Mr. Wells, be good enough to give us some details as to the *weight* of honey consumed during the winter and spring months by his double stocks? Do they consume more or less than single stocks? 2. Does he stimulate his bees in spring? 3. Is carbon, such as is used for increasing the light from gas, suitable for placing among quilts and in hives as a preventive against foul brood? The district around here appears to be quite free from it, yet perhaps it is as well to take precautions. 4. Will you kindly give me a few hints for starting a bee-keepers' society in this neighbourhood?—C. B. BARTLETT, *Witney, November 20th,* 1892.

REPLY.—1 and 2. If Mr. Wells is not already overrun by the numerous queries addressed to him, no doubt he will reply to yours. 3. Yes, it will answer very well. 4. The Secretary of the B.B.K.A., Mr. J. Huckle, Kings Langley, Herts, is better able to give information as to starting Associations than any one in the kingdom, we suppose; write to him.

[685.] *Medicating Bee-food—County Council Lectures.*—1. I have medicated my bee-syrup with salicylic acid; is that of any use to destroy foul brood? 2. Can naphthaline be purchased at a chemist's, and at what price? 3. Do wooden hives need an outer covering during winter if they are packed well on top with quilts and paper? 4. I read in the *B. J.* last week there are to be lectures on bees at Rochester shortly.

I have been waiting for this a long time, and I was told lectures would be delivered some time back. There are several round here, like myself, want a deal of teaching; how is it that the Technical Education Grant for our county does not help in this direction?—JOHN DEAN, *Strood.*

REPLY.—1. Salicylic acid is a very excellent antiseptic, though many bee-keepers do not esteem it very highly; why, we do not know. 2. Naphthaline can be purchased at most chemists, but it is not of a kind we recommend for use in beehives, besides being very much higher in price than that sent out from this office. 3. All hives have not outer cases, nor do they absolutely require them if well made and of substantial material. 4. The Technical Instruction Committee of the Kent County Council are giving liberal support to the efforts now being made to teach bee-keeping on modern principles, as the frequent lectures now being delivered in the county prove. We hope you will yourself admit this much after attending the course of lectures referred to at Rochester.

[686.] *Confining Bees while Snow is on the Ground.*—In clearing out some spouting round the house I came across a large quantity of the insect of which I send you samples. 1. Can you inform me what they are? They look almost like bees at first sight, but the head is different, and they have no sting. There is another matter I wanted to consult you upon. One of my earliest bee-books says, "On no account close up the entrance to hive entirely during winter." I have never done so yet, and the consequence is, when we have snow on the ground and a warm day comes with a bright sun, the bees insist upon coming out—however much the hives are shaded by bags, &c., from the sun—sink on to the snow, and it seems to paralyse them, for they never rise again. On such a day during this coming winter I thought of closing them in securely till the snow has melted. 2. Shall I be right in so doing?—WALTER E. PEARSON, *Handsworth.*

REPLY.—1. The insects sent belong to the order *Diptera* (or flies), *Eristalis tenax.* They are quite distinct from the *Apis mellifica* (or honey-bee). 2. Bees should never be confined during the time snow is on the ground, unless the entrances are quite "snowed up," in which case they may be left so until a thaw comes. We frequently throw a shovelful or two of light, loose snow over hive entrances, to keep in the bees when the weather is cold enough to prevent a thaw, and leave it so until the snow melts naturally. On the other hand, to confine bees as you suggest might easily lead to disaster.

[687.] *Straw Skep Making.*—I hope you may see your way to reprint the instructions contained in a past number of the *B. B. J.* for making straw skeps on the English method. I am anxious to start some cottagers in our village, and although I have traced back to the *B. B. J.*, since 1884 I cannot find the paragraph in question, but succeeded in finding the Swiss method. I have a distinct recollection of the instructions appearing, and think that if you could possibly reprint them they would be of much service to others during the coming long winter evenings, as well as to—J. K., *Ripon.*

REPLY.—We confess our inability to help our correspondent in tracing the article referred to. Perhaps some reader will assist us by recollecting the title under which the information sought for appears?

[688.] *Surplus Pollen Combs.* — Having several frames of empty combs with pollen in them, I should like to know what would be the best to do with same. Shall I break them up, or will the bees work in same next season, or shall I be able to abstract pollen from same myself?—AN OLD SUBSCRIBER, *Crab Orchard, Worcester.*

REPLY.—If the combs are pollen-bound, *i.e.*, overloaded with pollen, they are of little use, it being hardly worth melting such combs down for wax so great is the amound of "offal," and so small the quantity of wax got from them. If only a few cells, however, are so filled, the bees will remove it when breeding-space is required if too hard for use as food.

[689.] *Confining Bees to Hives in Winter.* —1. Will a stock of bees live through winter if confined to their box by fixing perforated zinc over entrance? 2. I enclose two bees; can you say what race they are, and if a good sort to keep? 3. If I obtain driven bees half a mile distant, would they stay with me or return to their original quarters?—A BEGINNER, *Wombleton, York.*

REPLY.—1. It is quite possible that bees would survive for some months in a severe winter if confined to the hive, but we strongly advise you not to try the experiment. 2. Bees sent are the ordinary native kind. We can say nothing as to their working qualities. Experience only will settle that point. 3. The driven bees will not return to their old location.

[690.] *Wintering Precautions.* — 1. If entrances are left wide open will there be any fear of "robbing" on fine, warm days? 2. Would a strip of queen-excluder zinc answer as well as wire to prevent entrance of mice, or would it chill the bees going in and out? 3. If snow covers the entrance will it suffocate the bees, or will the heat from the hive prevent it by melting the snow sufficiently for ventilation? 4. My frames are covered with American cloth and quilts over; by putting Latus felt on the roof will it take away the heat from the hive.—S. M., *Herts.*

REPLY.—1. No doubt a wide entrance conduces to robbing if the latter is prevalent. Our own plan is to have a very narrow entrance to the outside case of hives and a full-width one to the hive proper within. 2. Yes, but the best preventive of mice entering is to have the en-

trance not more than ⅜-in. high. 3. Snow will not stop ventilation, nor will it do harm so long as the bees are kept within the hive by its covering the entrance, but when the latter is free the snow should be cleared from the alighting-board. 4. No.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

CUTHBERT BEDE (Durham). — *The Wells System.* — We have on several occasions strongly deprecated any departure from the particular adaptation of the plan of working two queens in one hive known as the "Wells" system, as followed by Mr. Wells himself, and if our correspondent refers to *Bee Journal* for April 7th (p. 132), November 10th (p. 438), and November 24th (p. 459), full particulars will be found therein of the method and its working as described by the gentleman who is naturally better qualified than any one else to speak on the subject.

J. SMART (Long Newnton).—The *Bee-keeper's Guide-book*, by T. W. Cowan, gives full instructions for practical work in the apiary, and *The Honey Bee, its Natural History and Physiology*, by the same author, will supply the scientific part more thoroughly than either of the books named.

TOPSY TURVY (Carlisle).—Bees sent are hybrid Carniolans.

DAVID DAVIES (Talgarth).—*Moulds for Metal Ends.*—We do not know who supplies these, but you may be sure a mould costs more cash than it would cost you to purchase many gross of "ends" ready made.

T. GRIFFITHS (Staffs).—*Function of the Bee's Sting.*—We fancy the substance of the cutting you kindly send has been taken from what has already appeared in the *Bee Journal*. Any way, this peculiar function of the bee's sting was exhaustively dealt with at a *conversazione* of the B.B.K.A., and fully reported in our columns.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

*** *Several articles, queries, &c., are in type, and will appear next week.*

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HONEY SECTIONS (1892) Wanted for Cash. Address T. SMITH & Co., Cambridge Street, Hyde Park.

WILL give either Chartien's "New Oral French Lessons," 3s. 6d., or Dzierzon's "Rational Bee-keeping," 5s., for "The Honey Bee," by Cowan, 2s. 6d. What offers for Langstroth's "Hive and Honey Bee," 9s.? Address ECCLES, Newmillerdam, Wakefield.

WANTED.—Honey in exchange for good Fox Terrier Pup. Address LL. MORSS, Mytton Lodge, Whalley, Lancashire.

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ORDERS addressed J. ROSS, Stranraer, Wigtownshire, N.B., will be attended to.

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THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—At last we are having a taste of real winter, for within the last few days we have seen the snow, heard the hail pattering on the window-frames, and felt the frost keen enough to render the ground hard as nails. As we write, London is being treated to what imaginative people will call a "blinding snow-storm." Any way, the morning papers report snow a foot deep in Cheshire; railways blocked by it in Scotland and Ireland, and 13° of frost in north-east Yorkshire, besides greater or less casualties among cattle owing to the severity of the weather; so that it can no longer be said that we are to have "no bad-weather troubles this year."

To the bee-keeper, however, who has done his bee-work well, bad weather only brings peace of mind concerning his bees; for howling storm or keen frost will only interfere in a very small degree with the well-doing of his charge. To the thoughtless or dilatory bee-man, on the other hand, bad weather means a season of trial to himself and his bees.

A STANDARD HONEY BOTTLE.—Since this was first mooted by a correspondent in our issue for October 6th it has been dealt with in a manner sufficiently indicative of the general interest taken in the subject by our readers. We have, therefore, been looking over the correspondence in order to gather therefrom how far the tendency of those taking part in the controversy leaned to one side or the other. "It is easy to prophesy when you know," some may say. All the same, it is none the less true that the result is exactly what we expected it would be. Bee-keepers who are not large honey-producers, and consequently who have not more than a hundredweight or two of surplus to dispose of—while, it may be, they live in a locality where a demand for good honey exists—resent quite seriously and conscientiously what they call "bringing down prices." They believe that the prices quoted in our advertising pages by those having honey to sell are "ruinous to the industry;" indeed, in a letter before us (already in type, and which will appear next week) the writer says that he has given back to his bees frames of comb containing four or five pounds of honey in each "*rather than take less than one shilling per pound for it.*" (The italics are his.) He also declares that he is "sick of seeing" the prices at which honey is offered in our sales column.

Of course, we can readily understand those who do no "wholesaling," but sell all their honey "at home" at prices varying from 1*s.* per pound upwards, being practically unanimous in their denunciations of a standard jar holding less than sixteen ounces; but they should put themselves in the place of those who are perforce compelled to sell all their produce to dealers, and we venture to think their views would undergo some modification. The dealer buys at so much per dozen jars (not pounds), and he usually sells them at 1*s.* each. When cost of screw-cap jars, carriage, and other expenses are deducted, there is not so much left for the bee-keeper as will make him too anxious to secure a jar holding more rather than less than a full pound. And so the whole question may be summed up by saying that the bee-keeper who gets a good price for his produce ought to be honest enough to *sell it by the pound*, and give the buyer a full sixteen-ounce bottle for his money; while the less fortunate one who deals only with the shopkeeper is no less honest in putting his produce up in a "reputed pound" jar, and selling it at per dozen jars. When he has done that he will have less cash per pound for his honey than those who complain of him have for theirs. It will surprise us if this view is not taken by the B. B. K. A. if the matter comes before that body.

STAFFORDSHIRE COUNTY COUNCIL AND BEE-KEEPING.

On Monday, November 28th, Mr. Robert Cock, the County Council Lecturer on Horticulture, gave a lecture on bee-keeping at Tutbury, illustrated by lantern slides. Mr. Cook, being introduced by Alderman Walker, commenced his address by pointing out how interesting and profitable bee-keeping can be made if well attended to. As the slides came on the canvas the various methods were explained, from the primitive straw skeps to the latest improvements in the bar-frame hive, the varieties and life of the bee, with the uses of each. The lecturer explained how to economise the work, and how to obtain the best results from each stock, laying particular stress on strong colonies and proper attention during the whole year. There was a large attendance, and much interest was shown in the lecture. At the close, Alderman Walker proposed a vote of thanks to Mr. Cock for his instructive and interesting address. The Rev. C. Chippendale seconded the vote of thanks, which was carried unanimously. These lectures are being given in many places in the county, and much interest is taken in the matter.—*Communicated.*

LECTURE ON BEE-KEEPING.

A most interesting and instructive lecture was recently given at the Schools, Chipstead, Surrey, on "Bees and Bee-keeping," by Mr. Charles T. Overton, of Lowfield Heath Apiary. The lecturer, who was thoroughly well versed in his subject, based all his remarks on his own personal experience, and the interest of the audience was maintained throughout.

The lecture was eminently practical, being calculated not only to help those who already kept bees, but also to awaken an interest in all present. Mr. Overton emphasised the advantage of bee-keeping, as far as profit is concerned, and strongly advocated the use of the "bar-frame" in preference to any other form of hive.

The lecture was illustrated by an excellent series of lantern slides, and at its close discussion was invited, Mr. Overton most kindly and helpfully answering the many questions addressed to him.—C. G. Y., *The Rectory, Chipstead.*

MIDDLESEX BEE-KEEPERS' ASSOCIATION.

Mr. J. T. Harveyson, the district secretary, delivered a lecture, entitled "The Busy Bee," to a large and attentive audience at the St. Paul's Club Schoolroom, Finchley, on Saturday evening last, December 3rd.

The lecture was rendered additionally attractive by the exhibition of a series of lantern slides on bee-keeping.—*Communicated.*

MAGNITUDE OF THE QUEEN-TRADE IN AMERICA.

In the October *B. K. Review*, the editor requested queen-breeders to report the number of queens they had reared the past season, and here is what they report, our friend, Mrs. Atchley, heading the list:—

Atchley, Jennie, Floyd, Tex.	2,800
Bankston, C. B., Thorndale, Tex.	700
Compton, W. A., Lynnville, Tenn.	120
Case, J. B., Port Orange, Fla.	745
Doolittle, G. M., Borodino, N.Y.	712
Frazier, W. C., Atlantic, Iowa	150
Green, J. A., Dayton, Ills.	296
Golden, J. A., Reinersville, O.	77
Hicks, C. M., Hicksville, Md.	175
Kildow, A. L., Sheffield, Ills.	141
Leininger Bros., Ft. Jennings, O.	800
Lockhart & Co., F. A., Lake George, N.Y.	500
Michael, J. F., German, O.	300
Moore, J. P., Morgan, Ky.	680
Mott, George, Spurger, Tex.	250
Nebel & Son, Jno., High Hill, Mo.	1,180
Pike, D. A., Smithburg, Md.	337
Quigley, E. F., Unionville, Mo.	297
Thies, Chas. H., Steeleville, Ills.	568
Trego, S. F. & I., Swedona, Ills.	949
Total	11,715

—*Am. B. J.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "The Manager, 'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

ANOTHER WAY TO PREVENT SWARMING AND INCREASE SURPLUS.

[1250.] Perhaps what I am going to make known to my brother bee-keepers may be something that is not new, but I wish to give the results of my experience in working a hive on a plan which has given me such entire satisfaction that in the future all my hives containing one queen will be managed on the same lines, which are as follows.

The body-box, or lower brood chamber, holds ten standard frames, and to complete the hive I have, in addition, three shallow-frame boxes, each holding eleven of the usual shallow frames,

five and a half inches deep. The first week in May I open the hive, find the queen, cage her and keep her warm, while I am cleaning the floor-board and placing a piece of naphthaline, with a coil of zinc around it, in each corner at the back. I then replace the body-box on floor-board, fix a queen-excluder above the frames, and set over this one of the shallow boxes, with its eleven frames fitted with a full sheet of new foundation alternately with a frame of *worker* comb partly or wholly drawn out. This forms my second or shallow brood chamber, and when it is fixed nicely on, and precautions taken to prevent the escape of heat, the caged queen is allowed to run down into it. I then at once cover all warmly down, and feed *regularly every night*—from *two holes* of a slow feeder—with medicated syrup, given as warm as the finger can be held comfortably in it.

The queen is confined to the shallow brood chamber for twenty-one days, during which time its eleven frames are filled solid with brood in all stages, while the brood in the lower body-box has all hatched out. About the same time, also, in our district, honey begins to come in, and so feeding is stopped, the queen-excluder being moved from between the two brood chambers and set on above the upper one. This done, the remaining two boxes of shallow frames which constitute the surplus chambers are placed on over all.

By this plan the queen gets plenty of laying-room in the now empty cells of the lower brood chamber, while the additional room overhead for both honey-storing and comb-building gives the bees something else to think of besides emigration, and so the swarming mania is put aside or stopped altogether.

The above is not theory only, for the bees worked on the plan this year gave me a surplus box of honey as heavy as I could well carry, and the second one was half filled. But the surprise came when I proceeded to examine my other hives, worked in the ordinary way, expecting to find at least something like similar results; but there was only a very few pounds of honey in the best of them, and in most the bees were only beginning to draw out the foundation in the surplus chambers. At the end of the season I also found that the bees worked on the plan described had filled both brood chambers.—T. Holliday, *Astbury, Cheshire.*

[In reference to the above, we would offer a few words of caution to those who may not be sufficiently experienced to bear it in mind, and that is, to be careful that the lower body-box is well filled with bees before adding the second brood chamber and removing the queen into it. Also to lift a corner of the quilt and make sure that the bees have passed through the excluder and joined the queen in the upper brood chamber; otherwise mischief may be wrought, for we have known queens—shut off in that way from the bees and brood—to worry themselves to death in the vain effort to pass through the excluder. In some cases the bees apparently prefer to cluster closely on the brood and leave the queen to her fate.—Eds.]

MORE "SCIENCE OF BEE-KEEPING."

[1251.] It has been truly said that we live in an age of discovery, and what future generations will think of the nineteenth century I do not know, but, from an apicultural point of view, they will undoubtedly realise the fact that they were born too late, and we—how grateful we ought to be to find ourselves, so to speak, "in the very thick of it!" Now, only a few weeks ago the whole bee-world — or at least that large portion of it who are readers of your pages—was startled by the discoveries of Mr. Peter Bois; as to which, however, your able correspondent, Mr. R. A. H. Grimshaw, has "trod on the tail of his coat," though I think Mr. Grimshaw might, in courtesy, have waited until our Jersey friend had had his "say" before informing him so unceremoniously that, practically, he did not know anything about it. However, I am not prepared to enter into this learned discussion, and must therefore leave the gentlemen to continue the controversy, the result of which cannot fail to be highly interesting to all concerned; and undoubtedly, when next season arrives, our little friends, the bees, will have a lively time of it when they go out pollen-gathering, for many inquiring minds are anxiously waiting to find out "how it is done;" and I fully expect, before the close of the coming season, we shall hear of half a dozen different theories on the subject—all brand-new discoveries.

But, Messrs. Editors, there has been a discovery which bids fair to eclipse all previous ones, and which goes to prove that all the 172 authorities mentioned by Mr. Cowan, and even that gentleman himself, know nothing about the real use of the sting in the economy of the beehive. I allude to the discovery of the most important function of a bee's sting, which one of your contemporaries gives to its readers in a recent issue, and which has also been noticed by the daily papers in words to the following effect:—

"It will be a surprise to many to learn that, says a correspondent of the *Horticultural Times*, after all, the most important function of the bee's sting is not stinging. I have long been convinced that the bees put the finishing touches on their artistic cell-work by the dexterous use of their stings, and during this final finishing stage of the process of honey-making the bees inject a minute portion of formic acid into the honey. This is, in reality, the poison of their sting. This formic acid gives to honey its peculiar flavour, and also imparts to it its keeping qualities. The sting is really an exquisitely contrived little trowel, with which the bee finishes off and caps the cells when they are filled brimful with honey. While doing this, the formic acid passes from the poison-bag, exudes, drop by drop, from the point of the sting, and the beautiful work is finished."

The above is extracted from the *Pall Mall Budget* of the 24th ult.

In the face of this, I would ask your readers to contemplate how their forefathers have been deceived in supposing that the sting was given to the bee for the sole purpose of defending its

stores and young, and to say whether they do not feel ready to exclaim, "Well, I never!" or "Did you ever?" For myself, I should very much like to see how the Guide-books of the future will describe the operation of flavouring the honey and plastering the wax on the top with the newly discovered trowel. I presume it will be something like this:—The honey in the cell having been evaporated to a proper consistency, the work of flavouring the same is next proceeded with. Bees with the longest and most pungent stings are selected, who, placing their stings into the honey in the cell, exude a few drops of toxic flavouring, and, after stirring it well to mix it thoroughly, the sting is withdrawn and the honey sampled by the neighbouring bees in order that they may judge the quality (having in view local and other shows, no doubt, and the weakness of judges for a certain flavour). Should this be considered satisfactory, the next proceeding is to cap the honey over, which the bees do by smearing over the top of the cells with a preparation of wax, using their stings as trowels for this purpose.

What a delightful insect this bee of ours is! It has a honey-spoon in its mouth, beyond all question; but now we are asked to credit it with a plastering trowel in its sting.

If Darwin's doctrine of descent and theory of natural selection is taken into account, there can be no reason why the sting of the bee (now it has been developed so far) cannot be so further developed by judicious selection so as to make it perform nearly the whole of the functions of the insect, and so give the other organs a rest. It may be that we shall eventually be able to do without the bee at all, as we now know it, so long as we get a decent swarm of evolutionised stings, although some of your readers may think they get a fair share of these already; but well-ordered bees, when this epoch arrives, will no doubt know better than to use the sting for so base a purpose as heretofore.

I note at the meeting of the B.B.K.A. on the 16th ult., that it was decided to elect a certain number of eminent persons as honorary members of the Association every year. This resolution has been arrived at not a whit too soon, as things are going at the present day, and it is a consolation to think that the Association will not have to look far to find suitable recipients for these honours.

Discoveries crop up so thick one upon the other that we hardly know where we are. I am afraid they are "kind o' things" we read about, but certainly have never been seen by—THE HEATHER.

[The new discovery which our correspondent so humorously alludes to is known as the "Trowel Theory," and was started a few years ago by the Rev. W. F. Clarke, in Canada, as a pleasantry, no doubt, seeing that the structure of the sting makes it quite unsuitable for such a purpose, and for this reason a theory of that kind would not be likely to find a place in guide-books. The story has gone the round of the papers, and the substance of it has, from time to time, been brought forward as a new discovery. That formic acid enters into the composition of honey there is no doubt, as its existence was proved by Dr. de Planta over ten years ago, and also that it is added just before the cells are finally capped over. Formic acid is a powerful antiseptic and preservative, and is doubtless added for this purpose, and not for flavouring. We have received from several other correspondents the same extract, taken from different papers, so it is evident this old *canard* has been started on its periodical journey once more.—EDS. *B. B. J.*]

PRESERVING QUEENS WHEN RETURNING DOUBLE SWARMS.

THE "WELLS" SYSTEM.

[1252.] In *B.J.* for November 24th (1237, p. 461) Mr. H. Neve asks how I manage to provide both portions of my double-queened stocks with queens in returning swarms? If I am present when the swarm issues, I watch for the spot where the bees intend to settle. When that is seen, I make for it, and, keeping a sharp look-out, capture one queen, if possible, and cage her. This queen is then put into a warm place until the hive is ready for returning the swarm. When all is prepared, I place the caged queen in one half of the hive, and block up the entrance to that portion, so that neither bees nor queen can pass in or out by that way. I then let the whole double swarm run into the other half of the hive, to which the entrance is open and free. The bees pass up through the excluder zinc, and so populate both sides of the hive, as they did before the swarming took place, while both queens are preserved. If you cannot succeed in capturing one queen as above, the swarms often settle in such a way as to show where each queen is by forming two separate balls or lumps as they hang in the cluster, somewhat similar in shape to two loaves of bread stuck together. In that case I get a skep, and gently work its edge between the two lumps of bees; then quickly brush one lot into it, and set the skep and bees on a cloth on the ground. The remainder of the swarm is then shaken into a second skep, and set on the ground a little way off, a very few minutes sufficing to show whether there is a queen in each skep or not, because the bees will soon desert the skep into which they have been shaken if there is no queen with them, and will join the lot where the queen is. Under such circumstances, if I have a spare queen on hand, I put her in one side of hive, as I do with a captured one, and let all the bees run in the other side. Otherwise I should leave a frame of brood, with one ripe queen-cell upon it, in one side of hive, block it up, and return swarm in other side. In the latter case, of course, we have but one laying queen for three weeks after swarming, and so it is important to secure the old queens, if possible. Of course this might be done with the help of a "self-hiver" if the hiver had a division in it.

Another correspondent (1240, p. 461) wishes

me to describe the perforated dummy which I use. I beg to refer him to my letter in *B.B.J.* for May 19th last (p. 193), where the dummy is fully described.—G. Wells, *Aylesford, Kent, November 26th.*

MY BEE DIARY FOR 1892.

[1253.] Jan. 1st. Commenced the year with four frame hives and a skep.

Jan. 24th. Cleansing flight. Gave candy to Nos. 1, 3, and 4 stocks, also to skep. Found No. 2 dead. Attribute this to the stock being weak when packed for winter, it having only three and a half seams of bees. Excessive feeding became necessary to keep up temperature of hive, causing dysentery when confined to the hive and heavy death rate.

March 13th. Found No. 4 hive dead, also the skep. Each had plenty of stores, and strong in bees. I think, perhaps, the sugar in the autumn was not suitable. It only cost 1½*d.* per pound; at the same time, my grocer told me it was cane sugar.

March 16th. First examination of stocks. Found No. 3 weak. Bees on three frames; little brood on one frame. Plenty of stores. Reduced to five frames. Crocus just coming into bloom. Examined No. 1 hive. Bees on four frames and brood on three. Stores plenty. Reduced to five frames.

March 26th. Coltsfoot out.

April 10th. Flowering currant out.

April 28th. Plums and currants out.

April 12th. Bought stock of bees on frames for 12*s.* and put in No. 2 hive.

April 22nd. Began feeding. Two holes.

May 13th. Apples and pears in bloom.

May 22nd. Sycamores in bloom.

May 27th. Horse-chestnuts out.

May 31st. Hawthorn in flower.

June 2nd. Drones flying from No. 2.

June 8th. Neighbour had a swarm. Made artificial swarm from No. 2 hive. It was on thirteen frames. Gave ten to new stock (No. 4), and left three and queen in old position, making up to ten with frames of drawn-out comb.

June 9th. Put supers on all hives except No. 4.

June 10th. Bees enter super in Nos. 1 and 3.

June 14th. Examined No. 4 hive for queen-cells, but found instead a *young queen* and freshly deposited eggs. Could not understand this, so examined No. 2 (the old stock); found old queen there and laying. I account for this as follows:—The bees in the old stock (No. 2), before being divided, were rearing a young queen to supersede the one already in the hive, which seemed old and had ragged wings, and I happened to divide the hive just at the right time, before the bees had killed the old queen. (Kindly say if this surmise is likely to be correct?) [Yes.—Eds.] To be sure about it I examined the hive on July 1st, seventeen days afterwards, and the old queen had gone, and in her place was a small young one. There were two empty queen-cells also. The stock did not swarm, I feel certain.

June 28th. Fifteen completed sections taken from No. 1. Extra super put on.

July 10th. No. 1 and No. 3 hives swarmed simultaneously. They joined together, forming one large swarm. Put them on twelve frames and three supers on top. All crowded with bees.

July 15th. Cut out queen-cells in No. 3. Left one young queen just hatched.

July 17th. Limes coming into bloom.

August 7th. Supers taken off all hives.

August 14th. Finished extracting.

August 15th. Began feeding. All holes.

August 16th. Drove bees for cottager (two lots) and united; putting them into a skep which I had in stock containing ready-built combs.

Total Honey Returns.

Hives.	Comb. lbs.	Extracted. lbs.	Totals. lbs.
No. 1 ..	29	.. 6	.. 35
„ 2 ..	0	.. 20½	.. 20½
„ 3 ..	0	.. 25½	.. 25½
(*a*) „ 4 ..	0	.. 14	.. 14
(*b*) „ 5 ..	0	.. 7	.. 7
	29	73	102

From three hives, spring count. (*a*) Artificial swarm from No. 2. (*b*) Swarms from Nos. 1 and 3 joined together.

September 16th. Finished feeding.

October 2nd. Finished packing for winter.

Food in hives as follows:—

Hives.	Frames of Bees.	Candy. lbs.	Sealed stores. lbs.	Unsealed stores. lbs.	Totals. lbs.
No. 1 ..	9	.. 2	.. 6	.. 12	.. 20
„ 2 ..	6¾	.. 2	.. 12	.. 4	.. 18
„ 3 ..	10	.. 0	.. 20½	.. 3	.. 23½
„ 4 ..	4	.. 2	.. 10	.. 8	.. 20
„ 5 ..	4¾	.. 0	.. 10	.. 6	.. 16
Skep ..	Full	.. 2	.. 22½ syrup		.. 24½

Notes on the Season.

Good bee weather from June 15th to June 30th, and up to July 12th. Nearly all the surplus was gathered by that date. Weather from July 12th to August 5th, *bad*: in fact, only four or five good honey days. Wet, dull, and windy. Not such a good season as 1891.—"*Prior's Lee*," *Shropshire, November 28th.*

AN INDIGNANT BEE'S FORCIBLE REMONSTRANCE.

[1254.] Will you allow me, as a humble member of that highly respectable, but little understood body, to wit, the bee community of these islands, to draw your attention to some dreadfully misleading statements contained in a paragraph entitled "Wonderful Work of Bees" in your issue of the 24th ult.?

Now, sirs, I have been applying my mathematical knowledge (I presume you will admit we bees know something of mathematics) to an examination of your figures; and, assuming that twenty-five cubic inches (say at the most) make a pound of honey, from your data—"3,750,000 trips for each pound"—I arrive at

the conclusion that *your* precious "busy" bee carries each trip a load of nectar containing the $\frac{1}{1500000}$ of a cubic inch, an atom imperceptible, I suppose, without the use of a microscope. What bee among us would have the impudence to venture home with such beggarly piliage? All the sensible "workers" in this 'ere hive were highly indignant at being thus misrepresented, and by our own especial organ, too; indeed, one "good old worker," carried away, doubtless, by passion, was heard to ejaculate "Rot!"

Then we are told that a "single ounce of honey represents millions of miles of travel." Now I myself, as a rule, like to get my load as near home as possible; but, when I have information of a treasure trove, I sometimes scurry around a couple of miles or so. Well, now, say I fly off two miles and back again, four miles in all; my total journeys (according to your showing, are four times 3,750,000, or 15,000,000 miles to collect my pound of honey; in other words, not much less than one million of miles for an ounce! Is there no discrepancy here, I wonder? To my mind your statements are erroneous and incompatible—or to put it vulgarly, they are "all over the shop." I beg to enter my protest against your allowing such loose statements to find their way into our *Journal*, which has hitherto won golden opinions among us for its championship of our cause.—AN INDIGNANT BEE, *Castlederg, co. Tyrone.*

[We are quite concerned as to the manner in which we may safely venture to offer our humble apologies for having ruffled the susceptibilities of the "indignant one," whose wrath is poured down on our head as above. If we begin with "My dear madam," the indignant one will probably retort, "I'm *not* your dear madam, in fact, I'm not a 'madam' at all; so don't address *me* in that way." *Then* what could we say, for, as "science" teaches, *she* would be right? And so, having much faith in the *suaviter in modo* when dealing with *Apis mellifica*, we make our best bow and observe: "Look here, old girl"—(the "old," bear in mind, always means *young*)—"we thought it just possible that some of our young fellows, who call themselves bee-keepers, might have been led to take in the figures quoted, but a thorough-going, hard-working, sensible bee, like yourself, with mathematics at your finger-ends as "pat" as some females have knitting-needles—never! Give our compliments to the other indignant ones in "this 'ere hive"—not forgetting the "good old worker,"—tell them all, but tell her especially, it *is* all "rot," as she beautifully puts it, and that we, from the first, believed it to be nothing else. Tell them also (we must get the blame on to some one's head, you know), that "it was all along of the printer," and that we will, if they decree it so, send you his name and address, and if you want to keep that printer from sleeping for a month, just drop him a line to say that the very first time he comes within sound or sight of a beehive, a swarm of indignant ones will drop on his bald head (if it isn't bald it ought to be, and he's *awfully* frightened of a bee). In the meantime, believe us to be still your humble admirers (for even *you* cannot charge us with want of admiration for a "good old worker" bee), and we faithfully promise not to print anything likely to make you get "waxy" again; in fact, we are ready to promise whatever you like rather than forfeit the "golden opinion" held regarding us by bees in general, and so we still venture to subscribe ourselves your *very own*—EDS.]

THE "SCIENCE" OF BEE-KEEPING.

"WONDERFUL WORK OF BEES (?)."

[1255.] I am a novice in the *science* of bee-keeping, but a great many years ago I very successfully mismanaged some bees. I built a bee-house, had some boxes made of fearful and wonderful shapes, got them stocked with bees, and then, from my proud position as an "advanced" bee-keeper, looked down upon my neighbours, who were nothing better than skeppists. In two years I had raised about a dozen colonies, but up to this time all the entries were on the debit side of the account. However, the time had now arrived when the immense profits of my "system" were to begin to pour in. I cannot now remember what constituted my special system of mismanagement, but I know it was so successful that at the end of another two years I found myself in possession of a bee-house (the worse for wear), a dozen or so empty boxes (much deteriorated), and a large lump of very dirty-looking beeswax.

My skeppist neighbours appeared to see a comic side to this matter; I never could. I thought I had finally bidden adieu to "our little friend, the bee," but a brother in Ontario sent me, as a present, Root's *A B C of Bee-culture* and a year's numbers of *Gleanings*. Needless to say, I enjoyed the reading immensely, and, as I read, I began to feel dimly that possibly I might have made some slight mistakes in my former attempt at bee-keeping; so I determined to "try again," and last autumn obtained two skeps, containing an old stock and a very late swarm; from these I have this autumn gone into winter quarters with four good colonies in bar-frame hives of my own make, and during the summer have taken forty-two pounds of honey, about one-third of which was in the comb. This magnificent triumph did not make me proud. I still nod when I meet my skeppist neighbours, and (when no one else is near) I sometimes even stop and speak to them. No, I am not at all conceited, and to you, Messrs. Editors, I come in all humility as a *novice*, anxious to learn.

Of course I take the *B. B. J.*, and in No. 544, p. 462, I read a short article, on which I should like to say a few words. Under the heading, "Wonderful Work of Bees," we are told that it requires 3,750,000 bee-loads to make a single pound of honey! Figures like these take away the breath of a novice, and set him to "figure it out." I suppose there are cases on record of English bee-keepers, during heavy flows of honey, obtaining 3, 4, or 5 pounds of honey in a day from one hive. Mr. Root, under "Basswood," says that his biggest yield was 43 pounds in three days—or over 14 pounds a day; and Mr. Doolittle, in note 13, says that he got 66 pounds in 3 days—or 22 pounds per day. I will

deal with this last extreme case—probably the largest yield on record. Supposing the figures to be correct in "Wonderful Work of Bees," the number of journeys to and from the hives to store these 22 pounds would be 82,500,000. Granting that on these days the bees would work full power for 15 hours, that would require 91,666 bees per minute, or 1572 *per second*, to go into the hive, and the same number to pass out. Again, assuming that each bee takes only 15 minutes to gather and deliver its load, and (never resting) makes 60 journeys in the day, then the actual number of bees required to gather the 22 pounds of honey would be 1,375,000, weighing about 275 pounds, or nearly 20 stone, exclusive of the young bees not leaving the hive and the drones! Truly, it makes a novice's mouth to water to think of a swarm of bees heavier than a sack of wheat, and bigger than a feather-bed!

As I do not think for a moment that friends Root and Doolittle would make their statements unless they were absolutely true, and as I am quite sure that there never was a colony so large as the one figured above, I fear we must look for the error in "Wonderful Work of Bees," especially as there is a manifest mistake in the statement that 62,000 clover flowers yield a pound of honey, which is carried away by 3,750,000 bees, so that to clear one clover flower of its nectar 60 bees must each carry away a full load.

May I suggest that perhaps it would be nearer the mark to say that "to gather a pound of honey 3,750,000 clover flowers must be visited by 62,000 bees?"—in this case, the latter part of "Wonderful Work of Bees" would require to be much modified.—J. W. Wilson, *Revesby, Boston, November 28th*, 1892.

[Although we have, by a slight inadvertence, laid ourselves open to the poking of a little legitimate "fun" at our expense by printing the newspaper cutting referred to as it appears on p. 462, we do not quite regret the "slip" made, because it has shown us that some readers, at least, are sufficiently alive to the absurdity of the statements regarding bees, which usually go the rounds of the newspaper press, to decline swallowing them without thought or consideration of any kind, as so many do. As a matter of fact, the paragraph in question was intended to appear "quoted"—as is usual with news and cuttings—and also with an expressive (?) following the title. The omission of these marks, of course, entirely conceals our disbelief in the story, which we had set down as an unusually strong "penny-a-liner." If we could venture to think that the same wide publicity would be given to what appears in our pages this week on the subject as was accorded to the offending paragraph in question, we might say, "All's well that end's well;" but that can scarcely be hoped for, truth being so frequently less acceptable than fiction. In any case, the fact of our being "pulled up"—as we have been in the above two amusing communications—may serve as an explanation why so many of the press cuttings (kindly sent by correspondents who "think they may be of some interest to bee-keepers") find their way into the waste-paper basket.—Eds.]

HONEY FOR CHICAGO.

[1256.] It is very gratifying to read the very encouraging report in last week's *B. B. J.* regarding the above exhibition. I regret, however, to notice that no prizes or medals are offered for heather honey. Surely this important omission must have been an oversight on the part of the Committee of the B.B.K.A. in charge of the arrangements. For my own part, I consider the Chicago honey exhibit will be incomplete without a fair quantity of heather honey, especially when we know how much this article is prized by Scotch bee-keepers and honey merchants, who usually appraise its market value *3d.* to *6d.* per pound over that of any other honeys. Of course there is no restriction as to what kind of honey is sent in for the competition, but it has often been said in your columns, and I only think it right, there should be a separate and distinct class between heather honey and other mixed sorts, so I trust I shall not be considered fault-finding in drawing attention to the matter.—J. D. McNally.

[Our correspondent need have no fear that heather honey will be overlooked in the competition referred to, it being—on so special an occasion—very important that all the different honeys produced in the kingdom should be represented, and we think that with so many as five judges the awarding of prizes may be safely left in their hands in full confidence that if a better sample of heather honey is shown than any of other kinds it will be done justice to.—Eds.]

FOUL BROOD AND COTTAGERS.

[1257.] In the recent discussion on foul brood which took place at the *conversazione* of the B.B.K.A. there appeared to be a strong disposition to blame the cottager for its prevalence, and for throwing difficulties in the way of its cure by maintaining a sort of armed neutrality against interference with his bees by strangers and others. As a rejoinder, permit me to say that there are—or rather, I should say, were until recently—fourteen bee-keepers within two miles of my garden, not one of whom could claim indulgence as a cottager; indeed, they are one and all people in good circumstances, and undoubtedly follow bee-keeping as a hobby and not altogether for profit. Well, of these fourteen bee-keepers seven as such are now defunct, five, as I know, from foul brood, but of the other two I cannot speak from personal knowledge. Of the remaining seven, I know five have the plague to contend with, and two I have not seen; but, as they are skeppists pure and simple, it is difficult to imagine they have escaped in the midst of a district which, to use Mr. Cowan's expression, must be "saturated with spores." At least half these non-cottage bee-keepers are absolutely ignorant of the existence of such a disease as foul brood; indeed, the bare mention of the fact that bees are subject to disease at all leads to a spasmodic

contraction of the listener's superciliary muscles, an almost imperceptible curl of his upper lip, and a furtive glance in the direction of the lunatic asylum. "Foul brood unknown" was quite lately part of an advertisement in the *B.B.J.*, offering bees in this neighbourhood for sale, although close by these bees there stood eight stocks in a row dead from the disease said to be "unknown." With the few who are acquainted with the pest there seems to be a tacit understanding that the fact of its existence must be concealed, but for what reason I cannot understand. I have *at least* seven affected stocks to look after next spring, and I don't care who knows it. Why should others care, too? I ask. And, again, is this "conspiracy of silence" among these non-cottagers worse than the stolid taciturnity of cottagers? Cottage bee-keepers may, perhaps, not be apt scholars of advanced bee-keeping, but somehow or other they can generally supply such non-cottage bee-keepers as I have been describing with bees to replenish their ever-failing stocks.

It seems extremely unlikely that legislation for the protection of intelligent bee-keepers will for some time to come be forthcoming. Remedial measures are, therefore, alone feasible. One terrible drawback consists in the almost total want of knowledge of the appearance of the enemy. I have often wondered if the B.B.K.A. could publish a coloured plate of an affected comb?—E. B.

THE "WELLS" SYSTEM AND WORKING FOR SECTIONS.

[1258.] In following the accounts of this mode of working hives, nothing has yet been said respecting the kind of section crate to be used. Would one holding forty-two be too large? This would go quite over the tops of frames, without any hindrance to the bees from either side of the hive mixing with each other in and under the crate, whereas if *two* crates of twenty-one sections each, placed end on, be used, the sides would touch in centre, and, being made flush, would present a difficulty for a free circulation of bees all over the frames, on account of the bee-space under crates being blocked midway. Will Mr. Wells kindly say which he adopts or recommends for a hive containing twenty brood frames, *i.e.*, ten on each side of perforated division board? I presume Mr. Wells does not remove the division board from brood chamber when working section crates.—J. H. N., *Watford.*

STANDARD HONEY BOTTLES.

[1259.] Being interested in the above subject, I should like to add a few words upon it. I am very sorry to see some bee-keepers are against a "standard" bottle holding a full pound. Why sixteen ounces cannot be made *quite* as attractive and saleable as fourteen ounces, I fail to understand.

The public, I am quite sure, look upon a "bottle of honey" as a pound of honey, though they may ask for it as a "bottle," no doubt feeling certain English bee-keepers are trustworthy and selling sixteen ounces to the pound.

"Trade customs" are all very well, or rather very *ill* considering how the term salves the consciences of men who would otherwise deal honestly; but the British bee-keeper ought to be "above suspicion," and the "two ounces" are just the difference between honesty and dishonesty, without the seller *distinctly* labels his small bottles as holding only fourteen ounces; but I feel sure a fourteen-ounce man would not do that. I am not a buyer, I am a seller, so write in the interests of the public and to maintain the credit of bee-keepers at large. I grant that the two ounces saved (?) out of every pound spins out one's honey, and makes a vast difference to a bee-keeper who puts up several hundredweight, but, all the same, the principle is wrong if the lesser quantity is sold as a supposed pound. My "take" this season was only sixty pounds from five hives, and two ounces from each pound would have paid me well. I am glad to say I would not thus conform to "trade customs."

My honey seldom or never competes in the open market with other bottles, but to those who send out their sixteen-ounce, the fourteen-ounce dodge is manifestly unfair. I wish others who do not approve would help and wrench out the thin edge of this wedge before it is driven in harder and faster.—Bee-Kay.

STANDARD HONEY BOTTLES.

[1260.] When one person tackles another in the public press, and pointedly solicits further enlightenment on a given subject, that person at least should have the common courtesy and manly courage to append his real name and address. I detest those who have to shield their rancorous writing under cover of a *nom de plume*. I also object to be taken to task by a party wholly unknown to me either by name or writings, such as "East Lothianite." I am always willing to clear up anything not understood in my communications and make all as plain as possible, but I like to know who I am addressing. Judging, however, from the last portion of "E. L.'s" epistle, it is more than evident he has read my letter (1221, p. 448) between the lines. I respectfully ask him to scan it over again, then favour the writer in his next communication with his name appended; after which I will endeavour to clear away the mist now dangling between his eyes and my letter on the above subject.—J. D. McNally.

[We certainly consider that when correspondents make pointed reference by naming those whose views or opinions they differ from, or choose to adversely criticise, it would be far preferable to give name and address, and so avoid fair retort like the above.—Ed.]

BEE-KEEPING IN DUMFRIESSHIRE.

[1261.] I here enclose a short account of my bee-keeping for the year 1892. I started the season with five stocks, four in frame hives and one in a skep; the last-named were crossed Ligurians, which I wanted to increase, so I let them swarm, and only got a few pounds of honey from them. Those in the frame hives were slightly stimulated in the spring, and I worked three with sections and one with standard frames for extracting. The three I wrought for sections gave me forty-five pounds, fifty-one pounds, and fifty-six pounds respectively; the one that I worked for extracting yielded 105 pounds, making a total of 257 pounds, thanks to Mr. Cowan's *Guide-book* and the valuable information obtained through the *British Bee Journal* in general! It has been a a poor season in the district. Skeppists have had a very poor time of it: I drove twenty stocks from skeps, and found them with very little honey; the average would be about eight pounds each. I am, however, glad to say we have now got a district Bee-keepers' Association started, and hope to be able to give a better account of ourselves by the end of another honey season.—NITHSDALE, *Dumfriesshire, November 28th*, 1892.

WEATHER REPORTS.

WESTBOURNE, SUSSEX.

November, 1892.

Rainfall, 3·41 in.	Sunshine 56·4 hrs.
Heaviest fall, ·75 in. on 15th.	Brightest day, 3rd, 6·4 hrs.
Rain fell on 19 days.	Sunless days, 12.
Below average, ·08.	Above average, 4·55 hrs.
Max. temp., 57° on 14th.	Mean max., 48·8°.
Min. temp., 29° on 2nd	Mean min., 39·6°.
Min. on grass, 21° on 2nd.	Mean temp., 44·2°.
	Max. barometer, 30·65 on 28th.
	Min. barometer, 29·75 on 19th.
Frosty nights, 3.	

L. B. BIRKETT.

BAGNALSTOWN, IRELAND.

October, 1892.

Rainfall	2·30 in.
Greatest fall in 24 hours, 27th	·52 „
Number of days on which rain fell	15 days.
Maximum temperature, 16th	57°
Mean max.	50·5°
Minimum temperature 26th	27°
Mean min.	38·64°
Max. ground, 28th	50°
Min. „ 19th	17°
Frosty nights	13

JOHN HENDERSON.

Queries and Replies.

[691.] *Sending Honey for Chicago.*—Could we be informed through your columns, how, and in what kind of jar or bottle, honey should be sent to London for Chicago? Would one-pound marmalade jars, nicely got up on the outside, do, or are glass bottles compulsory? The former would be better for travelling. Your decision on this point would benefit many intending to send honey.—E. A. S. C., *Clevedon, Somerset, November 30th.*

REPLY.—Honey for Chicago will be received in any kind of vessel or package, though—as stated in the announcement on another page—it will be preferred in one-pound glass jars. If sent in such vessels as you name it will require rebottling for the exhibition.

[692.] *Dividing Stocks after Swarming.*—If (on the "Wells" system) a double hive swarms, and I remove six or eight frames of brood into an empty hive, divided in centre with perforated board, have queen-cells in each compartment, place queen-excluder on top, but allow passage for bees from the one compartment to the other, may I expect one or two fertile queens?—ALEX. STRATHDEE, *Ballindalloch, N.B.*

REPLY.—Reference to Mr. Wells' own statement, printed in our pages, shows that his plan is to divide the brood combs of the hive after swarming into about three lots, each of which has a good queen-cell left. Each lot is kept separate in a small nucleus hive, and being put away in a warm corner and fed, in due time the queens hatch out, become fertilised, and form the *small* nucleus colony (with a young fertile queen), which he adds to his stocks in autumn. You cannot do better than follow closely Mr. Wells' plan; but if you, in preference, form two nucleus hives by dividing one of ordinary size, there is no reason why you should allow the bees to mix before supering-time. Indeed, it would be risky to do so.

[693.] *Material for Dividers—Moving Bees in Skeps.*—1. I am making a lot of section crates similar to the "W. B. C." Is zinc or thin wood best for dividers? 2. I can buy several straw skeps (last season's swarms) cheap. Would it be best to buy now or in early spring? 3. Would moving them in spring (about three miles) destroy brood? 4. What would be the best plan to carry them without damage?—A BEGINNER, *Newport.*

REPLY.—1. We have always thought that very thin wood was the best material for dividers, but some bee-keepers claim to be able to get better filled sections by using fine perforated zinc for the purpose. Try both and compare results. 2. It is *safest* to buy in spring, because the risk of winter loss is thus avoided. 3. February is the best month for removal, there being very little brood at that time, and conse-

quently small risk. 4. Raise each skep from its floor-board, and set on a square of coarse canvas. Tie the latter securely on, so as to prevent the escape of bees, and carry bottom upwards. If placed in a cart, lay the skeps on straw to prevent jarring, and pack safely upside down.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. W. BLANKNEY (Denton).—*Naphthaline in a Mushroom-house.*—1. We cannot "say whether naphthaline would kill wood-lice in a mushroom-house," but we rather fancy it would not. The odour, however, would not injuriously "affect the taste of the mushrooms." 2. Naphthaline is not poisonous in the ordinary sense; at the same time, it must not be eaten or mixed freely with food for either insects or human beings. It is a most valuable antiseptic, and a preventive of the growth of all kinds of germ life; and, as a simple instance of its value in this line, we saw it tried on flour paste, such as is used by bookbinders. This, if left to itself, becomes, as does all decomposing matter, a mass of minute life in the course of a few days; but, if a little powdered naphthaline is sprinkled on the top, not a trace of decomposition appears.

CHAS. DUNN (Kingswinford).—*Bees Refusing Syrup.*—If the bees "steadily refuse the syrup, even when offered warm," and there is risk of starvation from want of food, we should lift out a couple of the frames and pour some well-made warm syrup into the cells, and, after replacing these frames on each side of the cluster, close the entrance and remove the hive indoors into a warm room, setting a warm brick above the quilts to raise the temperature of hive, if necessary. This will rouse the bees and cause them to clean up the dripping combs. Next morning the hive may be set outside again. Failing this plan, only soft candy can be relied on. The skeps may have the warm syrup poured into a very shallow plate or dish, with a perforated "float" made to fit, on which the bees can stand while feeding—skep and floor-board being taken indoors and treated the same as the frame hives.

W. SOAR, J. BROWN, GEO. RAYMOND, and others.—Your letters have been forwarded to the Secretary of the B.B.K.A., Mr. J. Huckle, Kings Langley, Herts, to whom all communications connected with the British Bee-keepers' Association should be addressed.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE Extracted English Honey in 28-lb. Tins, at 8d per lb. Tins free. Deposit System. Sample 2d. Address R. DUTTON, Terling, Witham, Essex.

PURE English Honey at 7d. per lb., in Tins containing 60 lbs. Sample 3d. Corrugated Packing Paper, 26 inches wide, 2d. per yard. Address T. HOLLIDAY, The Apiary, Astbury, Congleton, Cheshire. 2

FOR SALE.—Honey, Section and Extracted, about 200 lbs. Deposit System. Address TETLEY NICKELS, Day House, Shrewsbury. 2

WANTED.

BRITISH HONEY. Any quantity bought in Sections. Apply to THOMAS B. BLOW, Welwyn, Herts.

STEAM FACTORY for Bee Appliances.

ORDERS addressed J. ROSS, Stranraer, Wigtownshire, N.B., will be attended to.

WINTERING BEES. By THOMAS W. COWAN. The most complete work on the subject of Wintering published. Third Edition. Price 3½d., post free. *British Bee Journal* Office, 17 King William Street, Strand, London, W.C.

THE MANAGEMENT OF STRAW SKEPS. Designed to teach the Cottager how to obtain the best results at the least possible cost. Price 1d. Ditto in Welsh, 1d.

British Bee Journal Office, 17 King William Street, Strand, London, W.C.

Home for the Dying.

A SALE OF WORK

In aid of 'FRIEDENHEIM,' Miss DAVIDSON'S Home of Peace for the Dying, in Upper Avenue Road, N.W., lately opened by H.R.H. THE DUCHESS OF TECK, and H.S.H. PRINCESS VICTORIA, will be held in

The Hampstead Conservatoire, Eton Avenue,

Close to the Swiss Cottage Station,

January 2nd and 3rd. (D.V.)

Any Contributions for the Sale will be gladly received by Mrs. SHARPE, Trinity Lodge, Finchley Road, N.W.; Mrs. COWAN, 31 Belsize Park Gardens, N.W.; Mrs. RUSHWORTH, 1A Goldhurst Terrace, South Hampstead; or by Miss DAVIDSON, 'Friedenheim,' Upper Avenue Road, N.W.

THE

British Bee Journal,

BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

HONEY FOR CHICAGO.

By the time our next issue appears, the date (December 20th) up to which honey intended for the coming competition, and for the World's Fair at Chicago, may be sent in will have passed, and an approximate calculation made as to the extent of the British exhibit. We, therefore, avail ourselves of the present opportunity for making a final appeal for donations to the special fund and for the honey competition as announced. In doing so, we also offer a hint rendered necessary by the fact that some expressions of regret have reached us from bee-keepers willing to have sent honey, but "who have none left on hand." They have either not noticed, or have forgotten, the fact that honey may be *purchased* for sending to Chicago; the only proviso being that it is British honey, and that the locality in which it has been gathered be stated. Now, this is where our "hint" comes in. There is just now—as we know—honey of fine quality offered in our advertising columns at most reasonable rates, and the outlay of a very few shillings will ensure any reader being represented at Chicago.

While on the subject of sending honey, we may also be pardoned for reminding those forwarding parcels, "carriage unpaid," than all such should be sent by *goods train*. A charge of four or five shillings for carriage on a donation of honey is, we venture to say, a heavier cost to the B.B.K.A. than the donors intended. Besides, the same parcels would have been delivered quite as safely by goods train for about eighteenpence.

Having said this much, we are very pleased to announce that, although a good few counties—especially in the North—are still unrepresented, a fairly good representative exhibit of British honey is already ensured, and if our readers will make one more effort in response to this final appeal, there is every prospect of the exhibit being creditable to our bee-keepers and satisfactory to the Association in whose name it will be staged.

The following contributions, in addition to those published in the *B.J.* of November 3rd, have been sent or promised:—

W. J. Sheppard.	W. Lees McClure.
Alexander Tweedie.	J. Baxter.
J. McDuff.	E. A. S. Cotterell.
G. Newman.	R. W. Lloyd.
W. T. Garnett.	J. Gittins.
Mrs. Fraser.	J. Hall.
H. O. Huntly.	Miss Cowan.
S. B. Fox.	A. H. Cowan.
C. H. Gardner.	R. W. Pett.
F. Wooldridge.	W. H. Woods.
J. E. Gray.	C. R. Piggott.
R. W. Sealy.	G. Dunkley.
A. W. Harrison.	W. Loveday.
J. Perry.	H. Jonas.
W. Sturdy.	H. Attfield.
R. Douglas.	Capt. W. St. G. Ord.
C. J. Baxter.	S. W. Beall.
W. A. Withycombe.	W. H. Ley.
W. Dixon.	J. D. McNally.
G. Head.	Rev. F. T. Scott.

THE NEW THEORY ON POLLEN-GATHERING.

A Reply to "The Science of Bee-keeping—Critical."

Your correspondent, Mr. Grimshaw, having taken exception to several statements made in my essay on pollen-gathering, I wish to reply to his remarks, and, at the same time, to enlarge a little on what my essay already contains.

I have been a constant reader of English, Continental, and American bee-literature for many years, and notwithstanding this and the careful perusal of several modern standard works on the subject, I felt quite unable to define the several movements made by the bee while gathering pollen, manipulating it, and forming the pellets. This being so, I could not reason

ably consider that other readers would be better able to do so than myself.

Familiarity with more than one language has also enabled me to keep in close and constant touch with the advance made by others working in many collateral directions. While I have observed that steady progress has been made in several subjects closely connected with that of the manipulation of pollen outside the hive, this latter has, in a great measure, remained in the same uncertainty.

Most of the "materials" which I made use of in writing my essay consisted of very voluminous notes taken by myself at the time of investigation, and these notes were ready for use before the work of Mr. Cheshire appeared; and from that time until now I have taken every opportunity of further checking my first observations. Since 1888, the latest editions of Langstroth's work, as edited by the Dadants, and Mr. Cowan's work on the Honey Bee, have been published, while fresh editions of others have appeared.

In order that readers may not misapprehend my meaning when I say that the hind legs of the bee do not gather pollen, I offer the following illustration, which will make the matter clear:—

In the first operation performed by the bee while on the flower, that of simply appropriating the pollen, before it undergoes any of the ensuing manipulations, the hind legs are used only as organs of locomotion, just as the eyes are used as organs of vision; and though both are equally indispensable, yet we cannot say of the eyes that "they gather pollen," when their real use is vision; neither can we say so of the hind legs, since they are being used for locomotion only. It is only in the second phase of the work, *i.e.*, that of preparing the pollen and of forming the pellets, that the hind legs do direct work, and then only with the prepared pollen conveyed to them by the centre legs.

During bright, dry weather, bees gather pollen on the wing from several flowers suited to that purpose, and which also allow the bee to do so while resting on the flower. Bees gather pollen mostly with their tongue, and in this case it is quite evident that the hind legs are not even required as organs of locomotion, their only work then being that of compressing the prepared pollen and forming the pellets. The nectar is removed while the bee is on the flower, and the pollen immediately it takes wing. The Veronica affords a good example of a flower suited to both purposes.

What I have said with reference to the hind legs applies equally to the hairs on the body and thorax. Some of the flowers are so arranged as to give the bee a good shower of pollen under the thorax, others on the back; and others, again, deposit pollen on different parts of the bee. But in all these cases no actual work is done by the hairs, or by the bee, with the object of gathering such pollen; the hairs accidentally, as it were, receive or retain it. And the bee, after it has gathered the nectar, proceeds to gather pollen from the anthers of such flowers in the same manner as it does from those by which it does not get dusted with pollen.

I at one time thought, like Mr. Grimshaw, that I had seen the bee remove pollen from the body with the inner part of the planta. But after I had observed that in every case the compressors were so arranged as only to receive the specially prepared substance conveyed to them, I resolved to specially investigate this point. Accordingly I made several observations, and in every case the bee proceeded as I am about to describe.

The removal of extraneous matter from the body with the hind legs was a slow and awkward process, very unlike the habitual celerity characteristic of the movements of the bee when manipulating the pollen and forming the pellets. This being long and tedious to describe, I did not do so at full length in the essay. The inner part of the tibia removed the pollen from the body; the opposite compressor in its turn removed this from the inner part of the tibia, and the face of the compressor was then cleaned by the comb at the end of the opposite planta, near the tarsus, on the leg first used; the extraneous substance was in every case thrown to the ground. Thus the compressors seem so disposed that they shall not readily gather substances from the body foreign to those which they are intended to manipulate. It is just as undesirable that the compressors should collect dust or other extraneous matter as that the purifier or dresser in a flour-mill should collect anything but the special substance for which it is intended, and dispositions equally effective are taken in both cases to prevent it.

In answer to the question on compressing prepared pollen, I would say, the proper conditions for compressing prepared pollen are only present when the bee is on the wing, because it is then that it possesses complete freedom for all the necessary simultaneous movements. Consequently almost all pollen gathered each season is compressed while the bees are on the wing.

With respect to the insalivation of pollen, I may say that since I discovered the system of pollen-gathering, I have utterly failed to observe a single exception to the observations I made thereon. The difficulty, therefore, for those who, after they have carefully perused my papers, observe the bees at their regular work of pollen-gathering, will consist, not in obtaining ample evidence of the fact that all pollen used for the pellets is previously passed into the mouth of the bee to be insalivated, but, on the contrary, in finding any such pollen that is not.

I have failed to find evidence that any honey is placed by the bee, while outside the hive, in the pollen of which the pellets are composed, while saliva is always present. Mr. Grimshaw does not believe in the breaking up or disintegration of some of the pollen grains by the process which pollen undergoes in the mouth of the bee. On that point I shall direct his attention to the fact that the pollen granules, which otherwise remain in a state of quiescence, burst

or break into growth, and undergo very active changes when they come in contact with *moisture, warmth,* and *air,* conditions which are all present in the mouth of the bee. And I will further quote Dr. A. de Planta, who has made a careful analysis of the contents of pollen and examined the effects resulting from the combination or pollen and saliva. He says: "Under the influence of the ferments contained either in the pollen itself or in the saliva, all albuminous matter undergoing, so to say, the process of digestion becomes transformed into peptones, and gummy substances into sugar, and this begins, and facilitates in a surprising manner, the final preparation of the food" (*Bulletin d'Apiculture de la Suisse Romande,* 1884, p. 192). The mighty obstacle which Mr. Grimshaw has raised of the impossibility of the alteration of the pollen grains thus falls of itself, and is explained by a purely natural cause, which has been observed by no less an authority than Dr. A. de Planta.—PETER BOIS, *Jersey.*

(*To be concluded next week.*)

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of November, 1892, was 1236*l.*—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office,* 17 *King William Street, Strand, London, W.C.*" *(see* 1st *page of Advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

TWO QUEENS IN ONE HIVE.

[1262.] I was much interested in reading Mr. Wells' account of his doings (1214, p. 438), and seeing that he has promised to answer any questions relating to them, I should be glad to ask him two or three. First, then, is not a swarm (from any hive) of over fourteen pounds something enormous? I think so. I should be very glad to hear of other bee-keepers' experiences of the weight of natural swarms. When I started bee-keeping, I studied Mr. Cowan's *Guide-book,* and was much impressed with the data given on the weight of swarms. Almost invariably I have weighed my swarms, and many that I have hived for others, both from skeps and bar-frame hives, yet the heaviest I have ever known was nine pounds, and I believe that to have been two united. Secondly, is not thirty pounds of wax a very large quantity to obtain from one year's working of such a small number of hives, my experience being that it takes a great quantity of old comb to produce a very few pounds of marketable wax? I don't think I have had as much during my whole seven or eight years' bee-keeping. Thirdly, has the immense number of over seven hundred combs mentioned all been used in the five double and five single hives this season, besides those left to winter on? If they have, no doubt a great many more bee-keepers, older in the craft and abler than myself, would be very pleased to know how they were managed, especially as Mr. Wells says the take of honey in his district was much below the average.—THE VILLAGE BLACKSMITH.

[We quite believe that, in writing as above, our correspondent had no intention whatever of being offensive; yet his "questions" are not questions at all, as he puts them, but rather imply a doubt as to the perfect accuracy of the statements referred to. To ask Mr. Wells if a swarm weighing over fourteen pounds is not "something enormous," could only evoke the reply, "It *is* enormous, but, nevertheless, quite true." And, as we must suppose that Mr. Wells has spoken truthfully throughout, it is scarcely in good taste to ask that gentleman whether he has, or has not, been romancing. For ourselves, we have perfect confidence in Mr. Wells, and in all that he has said, and, if approached in the right way, have no doubt that he would willingly give a practical verification of what he has done to any one wishing to visit him in the honey season. As for the size of the swarm, we see nothing at all wonderful, considering the strength of the double-queened stocks, and the width of the entrance—nearly two feet—in the fact of fourteen pounds of bees swarming out from such a colony.—EDS.]

WILL BEES PAY FOR KEEPING IN YORKSHIRE?

[1263.] Six years ago a friend advised me to keep bees for profit. I have tried the experiment, and, with your permission, will give my experiences of the year 1892. I take great interest in the hobby, and for years have read the *B.J.,* but although I peruse its pages with much interest, there is one thing I am sick of seeing, viz., the advertisement part, where parties offer their honey at prices so much per hundredweight and per pound.

But to begin:—My bees came through last winter well and strong. Having a number of frames of comb containing honey left over from 1891, I, early in the year 1892, gave to each hive a frame containing from four and a half to five pounds of honey. I did this *rather than take less than one shilling per pound for it,* and to save the trouble of giving syrup. On June 6th I got a grand swarm, which was hived on the

stand of the parent stock, after taking three of the best frames of brood from the latter, and giving these, along with a five-pound frame of honey, to the swarm. The remaining seven frames were fitted with "starters" of foundation, two inches deep. Above the frames I also put a crate of eighteen two-pound sections. Next day being fine, the swarm was working well, and two more hives swarmed simultaneously, the bees uniting of themselves. To this double swarm I gave a six-pound frame of moor honey and ten frames, fitted with two-inch "starters." I also put on a crate of twenty-one two-pound sections. I got another swarm same day, and treated this as I did the first one, the old stocks being united. You see, I thought that, by giving my early swarms frames of brood and honey to stock their new homes, I should be sure to get a grand surplus of sections; but although the first few days after hiving were fine, and the bees worked well, they had a lot of dull, damp weather afterwards, which stopped work. The double swarm filled a few sections, two of which, being sealed over, I took out, before sending the hives to the moors on the 11th of August. All the hives had more or less sections drawn out when sent. My eight hives were brought home again on the 27th of September, and I found that three of the eight stocks were dead, while the remaining five required prompt feeding. I reduced each stock from eleven to eight frames. The partly filled frames removed I set in an empty hive, and allowed the bees the pleasure of robbing it, in order to clear out the honey. I also gave them as much syrup as they would take down. Three of the best of the hives do not contain as many bees as there were in that double swarm when they went to the moors. It's the worst season here since 1888. All my hives are now well covered, and thatched with two inches of ferns round them, and so I must try again another year.

I have kept a careful account since I started bee-keeping, and although no honey has been sold at less than 1*s.*, and some little at 1*s.* 6*d.* per pound, they show only a small margin of profit. No bees are better looked after before swarming, and after returning from the moors; but I give no warm syrup at night, nor yet do I use an extractor—I run all for section honey in two-pound sections. What I did with my swarms this season was by way of experiment. Perhaps I was wrong, and some one will point out the mistakes I made; but certainly not in returning the honey to the bees rather than sell it at less than one shilling. Once lower the price below that and, like a stone thrown into the water, you will go to the bottom. In conclusion, I know a lot of bee-keepers who never saw an extractor till at the great Yorkshire Show, and have never seen, nor yet know, what foul brood is.—J. B. R.

[After reading the fair statement of results contained in the above communication, it is satisfactory to learn that our correspondent finds his balance-sheet shows even "a small margin of profit." That bees have done badly in 1892 in some parts of the north—notably so in Yorkshire—no one who reads the reports in our pages will deny, but we trust that our correspondent will divest himself of two predilections—to which prominence is given in his report—in respect of which we venture to say that he is wrong. In the first place we ask, why should he take offence at honey being advertised in our pages at less than the price *he* considers it to be worth? We have no doubt whatever that bee-keepers who can "take" their fifty to one hundred pounds per stock would be only too pleased to offend less in their advertisements if our correspondent will tell them the secret of how to obtain one shilling per pound for it. Otherwise they must perforce be content to sell for what they can get. Besides, we never hear of large producers expecting, or looking for, anything like so much as one shilling per pound for their produce when "wholesaling," and they would look upon giving the honey back to the bees "rather than take less" as a very foolish proceeding. Secondly, we believe our correspondent would succeed much better if he gave up working two-pound sections. These large sections are very suitable for the south (if saleable), and are liked by the bees better than one-pound ones, but in the north—say, in your own county of Yorkshire—there are far more chances of doing well if shallow-frame surplus chambers are used. The clover season there is too short for "sectioning" to be other than a precarious method of working. Bees store far more rapidly when not divided off into small clusters, as they are in sections, and for this reason we should certainly advise a trial of working for extracted honey in preference to the method hitherto followed.—Eds.]

A USEFUL HINT FOR BEE-KEEPERS.

[1264.] Good people of all kinds being precious, and especially bee-keepers, it may be well, in this cold, wet season, to remind our brethren of the craft that they have probably in their hands one of the chief ingredients for making "dubbin," viz., beeswax. Therefore, if they want to keep their feet dry and their boots soft and comfortable, let them take Russian tallow, beeswax, and castor oil, adding a little spermaceti oil if they have it handy, and melt them in a pot placed in boiling water till the ingredients are well mixed. Perhaps some bee-keeper can give a better recipe, with proper proportions; but I have made a most successful five-pound block with the above. If too stiff when cooled down, add more oil and melt again. The castor oil must on no account be omitted, nothing being better for preserving leather. The commonest will do, and the mixture will not be found offensive. It can be used to great advantage on portmanteaus and straps of all descriptions.

In this neighbourhood, between Exmouth and Sidmouth, most of those who keep bees are regular old-time skeppists; but a few modern hives are to be seen. The season has not been favourable. In one case only have I heard of good results. There the hives are modern, and

the large body-boxes remain full of untouched frames throughout the year. The bees are hybrid Ligurians, hard-working and ferocious. In sting-proof armour clad the proprietor makes his two yearly assaults: sections on, sections off. Unattractive, but the results are good.

Foul brood made its appearance in my apiary this spring. The two affected colonies, at opposite ends of the apiary, were at once destroyed, and I hope and believe that naphthaline and Naphthol Beta have ensured me from further ravages. One of the two destroyed colonies occupied half a twin hive, with an ordinary division-board. It was not convenient to shift the twin colony, so the half-hive was carefully painted with pure carbolic acid, and the twin colony liberally treated with naphthaline. Owing to this, as may be presumed, it has remained unaffected throughout the year. Mr. Cowan has most ably summed up the question of foul brood in your last issue. Insurance will certainly do good wherever the system can be fairly established. Yet it is only too probable that, where skeps are much in use, the disease will often make such progress before detection that other stocks, even at a distance, will be attacked, and the disease kept alive in consequence.

It may be worth noting that, should it have been decided to paint the insides of affected or suspicious hives, Calvert's No. 5 carbolic acid will be found to mix readily with the paint. It seems to have much the same effect as an addition of ordinary linseed oil.—SOUTH DEVON ENTHUSIAST.

AMOUNT OF FOOD CONSUMED IN WINTER BY DOUBLE-QUEENED STOCKS.

[1265.] In 684, p. 472, C. B. Bartlett asks what amount of food is consumed during winter and spring by double-queened stocks. They certainly do not consume so much in proportion as single stocks, but I cannot state the exact amount. I winter each stock on seven combs (standard size), and if each of these seven combs are about two-thirds covered with sealed stores, I consider the bees quite safe until the middle of the following March or beginning of April. Then, if food is wanted, I remove an empty comb or two, according to amount of food then in the hive and the quantity of bees, and replace with combs of sealed stores, which I keep in stock for the purpose. No further stimulating is needed, for I always find them much more forward than single stocks, even when these latter have been stimulated.—G. WELLS, *Aylesford, Kent, December 6th.*

BEES IN COUNTY KILKENNY.

[1266.] When I established my apiary I had many visits from bee-keepers in the locality. I freely communicated all I knew to them, giving instructions how to make syrup and feed. One man, living quite convenient to me, whose bees I saved from certain death by starvation in the autumn of 1888, had kept bees all his life, and strange to say, he never knew how to feed any other way than to purchase some of the darkest sugar he could get, and put a small quantity in at the hive door in winter.

The year 1888, as bee-keepers are aware, was a very bad season for honey, but not so for swarms with the skeppist in this locality. As a rule, when frame hives are working hard storing honey, the skep is losing the best of the season swarming. So it has been with this man's bees, for he had a lot of swarms, and when all chance of further supply was over neither stocks nor swarms had anything like sufficient stores. He asked me what he would do. Said he, "None of my hives are worth smothering, and if I let them hang on they will die." I gave him instructions how to make syrup, but then to feed it to the bees in skeps was the rub. With me it was easy—I could feed from the top. I called to see his bees, and devised a plan to feed from things I saw lying about. I took up an old riser, or what some would call an eke or lift, and placed it under one of the skeps which was full of bees and comb. I then got two pieces of smooth slate, and asked the man to bring me two two-pound empty marmalade bottles and the syrup he had prepared. I filled the bottles, placed a slate on the mouth of one, inverted it, and placed it on the stand of the hive. I had already placed the riser under, and done the same with the other bottle. "Now," said I to the man, "you come out early in the morning and lift out these bottles, and leave them by for a short time, and the bees will fly back to the hive. You can then take the bottles indoors and have them refilled, to be placed in position next evening." "Oh!" said he, "the bottles could not be emptied by the bees; how can they get at the sugar?" I said, "All right; but you do as I say, and you shall see," and to his surprise there was not a drop in either bottle next morning. He took the hint, fed all his bees in this way, and saved them.

He told me after he had no idea that bees could take syrup in such large quantities, and that he was quite certain but for me his garden would have been denuded of bees the following year.

The year 1889 was pretty good. He had some very heavy hives, and was talking of the sulphur pit. I said, "It is a pity for you to smother these fine lots of bees." "What can I do?" he replied; "I don't understand driving." I, having saved his bees the previous year from starvation, was anxious now, if possible, to save them from his own hand. I undertook to go to his place and drive a couple of hives, to show him how it was done. This I did successfully, and united the two fine lots without flour or other pacifier by throwing them all down on a cloth in front of a skep, which was about half furnished with comb, the bees belonging to it having died. (These two lots of driven bees turned out one of his best colonies the following year.) My time

being limited I had to leave, but left him my smoker, &c., and told him to work away.

In a day or two after I was alarmed by a loud knock at my door by a messenger from the Rectory, asking if I could give anything that would prevent bee-stings from swelling or alleviate the pain. Said the messenger, "Miss W. was badly stung when passing Mr. H.'s bees." I had a bottle of hartshorn, which I sent to the lady. She thanked me afterwards and said, "Only for your bottle I would have been destroyed!" I am told this lady was in a pitiful plight. She was driviug a pony aud trap when the bees attacked both herself and the animal. The pony ran away, but, fortunately, was stopped before he went far by a policeman, the bees still in hot pursuit. The cause of the accident and excitement was Mr. H. driving the bees. I believe he failed in the operation, for he sent me home the smoker and veil, and never troubled me for them again. I several times showed this bee-keeper some of my fine section honey, also gave him an opportunity of seeing my hives both with and without bees, gave him the name and address of appliance dealers with a view to get him to supply himself with one or two frame hives, but all to no purpose, for he has returned to the old cruel system, the sulphur pit—and I am sure Miss W. is not sorry.—M. K., *Co. Kilkenny.*

BEES IN N.E. LINCOLNSHIRE.

[1267]. If you would care to hear how we have fared in this remote corner of Lincolnshire, N.E., I may say the returns are much below the average. The clover was grand, but alas! nearly the whole time the bees were in their hives, kept there by dark, sunless weather, if not rain. Only myself and one other bee-keeper in our village did any good at all. I have five hives, and took sixty pounds of honey. Some skeppists, and even those with one to three bar-frames, did not take anything, and we all have to feed more or less—I, unfortunately, "more," though I did not rob the brood frames of an ounce of honey. The honey that I did get is remarkably good, being nice in colour and flavour, and of a very rich consistency. It has been highly appreciated by my customers, I am glad to say. I found the bees took very badly to sections this year, and when they did work in them it was by no means satisfactory; scarcely any were thoroughly well sealed, and, if sealed, they were light in weight, varying from eleven ounces to thirteen and fourteen ounces. In shallow or deep frames things went better, as I think they do in a "catchy" season. My bees, too, were generally bad-tempered. I got far more stings than usual, and when autumn came they stoutly refused to be properly looked at or overhauled. Has this "crank" of theirs been general?—but the summer, if such it could be called, has been a "drearying" time; certainly not conducive to calm content or amiability of either humans or bees.—BEE-KAY.

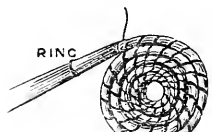
BEES IN A CHURCH.

[1268.] I enclose a cutting from a local newspaper, which may be of interest to readers of the *B. J.*—E. A. S. C., *Clevedon, Somerset.*

"During some recent alterations at the parish church of Long Clawson—a village between Melton Mowbray and Grantham—the workmen, while taking down the west wall, discovered a large quantity of honey. The comb measured five feet in length, and was two feet in width. It is supposed that the west end of the church has been inhabited by bees for more than twenty-five years, as during the whole of that time they have been seen in the vicinity, and not unfrequently have been observed flitting about inside the sacred edifice during divine service."

SKEP-MAKING.

[2269.] Complying with the request made in reply to query 687 (p. 473), a correspondent, Mr. F. Harper, has kindly sought out the information on skep making which appeared several years ago in our pages, and which we reprint as follows: "In making straw skeps, first get some long trailing briars. Cut off all thorns—those without side shoots are preferable—split into three, scrape out the pith, and point one end. But by far the easier plan is buy some split cane, which costs from 2*s.* 6*d.* to 3*s.* per pound. Next, take some nice, clean, straight wheat straw, cut off all the ears, and strip off all the flags or loose hanging pieces; *damp, not wet,* the straw. Next, take a ring of about one and a half inches in diameter (a common curtain ring will answer the purpose well). Now take a roll of damp straw, about as thick as your little finger at the thinnest end. Tie a piece of string tight round the level thin ends, slip on the ring; take the roll in the left hand, then bend the straw round to form a circle—tie at the junction. This forms the hole in the centre of top. Proceed to sew round with the cane, increasing the stitches each round; after the first increase the straw until the ring is full; gradually twist it away from you. The ring must be kept full, and gradually pushed back as required; when rounds enough are done to make the top the size you require (thus), bend the straw so as to form the first round of side. Continue until the hive is as large as you require it, when the last round must be gradually tapered to make a nice level finish.



"N.B.—Each stitch of the cane must be passed through the stitch before it, also a portion of the straw to fill up the crevices (thus); the dots show the underside of cane."

PREVENTING SWARMING.

[1270.] I am very much obliged for your foot-note to my letter (No. 1250, p. 476). But for the warning therein given, coupled with your valuable experience, I might have brought about disaster to myself next year, and have earned the anathemas of my brother bee-keepers from the same cause. I did not look to see if the bees joined her majesty in the upper box, so I may consider myself very fortunate in her doing so. Perhaps the feeding had something to do with it, seeing that the bees have to pass through the super to the warm food. All being well next year, I shall watch the point to which you draw attention, and take care the queen is safe. I also intend placing a queen in a wire cage suspended from frames, with sufficient food therein to last her several days. This plan would be very simple where re-queening is required (taking no notice of the queen below), and keeping queen caged for two or three days.

In packing my bees for the winter, I leave a super above bottom brood chamber with plenty of stores, and above a four-pound cake of candy, as recommended by Mr. Harrison some time ago in the *B.J.* I then place another empty super on, and, above the calico covering, three or four quilts of thick felt, packing round with any warm woollen material. I am happy to say that neither foul brood or moths have ever visited me.

A few years ago a friend handed me a copy of the *Record*, saying, "This will interest you," and it did. Since then my *B. J.* and *Record* are anxiously looked for by post. I used to wonder what our editors would do to fill up the papers during the winter months. I am glad to say there is as much interesting reading during the long nights as there is in the summer. I would suggest that any old numbers of either paper might be sent to where lectures are being given on fruit-culture. If you will send me a few copies, I will pay the carriage and distribute them at our meetings. Many persons attend that have never seen a bee-paper, and are still inclined to look upon bees as enemies.—T. HOLLIDAY, *Astbury, Cheshire.*

Queries and Replies.

[694.] *Disinfecting Clothing after Handling Foul Brood.*—Do you consider the "last of the spores" decently killed and buried in some clothes and gloves which I wore when manipulating a foul-broody hive? They have been packed away with naphthaline for three months.—O., *Brighton, December 7th.*

REPLY.—To say that the spores of foul brood will be killed by the use of naphthaline as stated would be misleading. As a matter of fact, the "spore" is somewhat analogous to an egg, and is encased in an almost impervious covering; but, when the rod-shaped spore begins to grow, *i.e.*, to hatch out or split up into tens of thousands—as it rapidly does under favouring conditions if unchecked—then the fumes of the preventive come in and stop the increase or spread of the disease. It is comparatively easy to cultivate the foul-brood bacillus by the million, but if a small quantity of naphthaline be introduced into the cultivating media no increase will or can take place. This proves its efficacy as a preventive. On the other hand, it may be admitted that gloves, and such articles as are brought into direct contact with foul-broody combs, may with advantage be subjected to a severer course of disinfection than the fumes of naphthaline, advisedly so mild as to render it harmless to living bees. We should therefore give the articles referred to an hour or two's exposure to the fumes of burning sulphur—such as would kill bees a dozen times over—in a close-fitting box before using them again in manipulating healthy colonies.

[695.] *Temperature for Opening Hives—Bee Pasturage.*—1. What should be the thickness of a floor-board? I have one half an inch only. 2. (*a*) What is about the lowest temperature that bees can be transferred from one bar-frame hive to another? (*b*) And at what temperature could brood be left outside the hive, say, for five minutes? 3. (*a*) Which is the better for spring feeding, syrup or flour candy? (*b*) And what advantage, if any, does the one possess over the other? 4. Is there any published list of the approximate time of the blooming of all flowers from which bees gather honey or pollen, and their relative values as regards the quantities of either or both which they yield?—F. F., *Clapham Junction, December 9th*, 1892.

REPLY.—1. There is no fixed rule. About three-quarters of an inch is thick enough, and anything beyond one inch is altogether too heavy and cumbersome. 2. (*a*) The best criterion for such operation is to select a time when the bees are on the wing. (*b*) Brood, if unsealed, should never be left outside the hive uncovered, except in warm weather—temperature, say, 65° to 70°. 3. (*a*) For *early* spring feeding candy is best; but so soon as bees begin to fly abroad for food, syrup should be used. (*b*) Soft candy is preferred when bees are not flying naturally, because when fed on it they do not require to leave the hive so frequently as when syrup is used. 4. *Bee Pasturage*, by H. Dobbie (Jarrold & Sons, Paternoster Buildings), is a shilling book written to supply the information you ask for.

[696.] *Adapting Hives to the "Wells" System.*—I have four hives, holding twenty-four frames each. Two I am running on the "Wells" principle, having this autumn divided the hives, and placed two good lots of driven bees in each hive. 1. Would it be wise to make the entrance at the ends of the hive, instead as now all the length of the front? Would it not lessen the excitement during swarming? The work could easily be done. 2. Again, could I not with the other two hives,

when in good condition, divide the same as if I were making an artificial swarm? Would the bees raise a queen if so divided?—E. T., *Bridgend.*

REPLY.—Having two entrances would not lessen the swarming excitement, because on the "Wells" plan the offspring of both queens are practically one colony, mixing freely in the surplus chambers. 2. We strongly deprecate any variations from Mr. Wells' own method when carrying out his system. Besides, we see little advantage to be gained by forcing a portion of the bees to raise another queen at the busy season, and would, in preference, work two single and two double-queened hives this year, for the purpose of comparing results in your hands.

[697.] *Examining Hives in Winter.*—What is the lowest temperature at which it is safe to examine bees in *winter?* I lost my stock last year through starvation, and should like to prevent a recurrence of mishap this year. I have three stocks, two of them being late swarms, and have continued to feed them most of the autumn. I put them up for winter late in October, giving to each hive a dry-sugar feeder at back, holding three pounds, and one pound of candy on top. So far as I could see, they had a fair amount of sealed comb along top edges at any rate, but still I am anxious. I placed cork-dust on top of quilt.—FRANK BAKER, *Birmingham.*

REPLY.—Bees should never need examining in winter; but if inspection is absolutely necessary, it should be done when the temperature is so high as to bring the bees out for a fly. Judging by the amount of food in the hives, as stated, there seems no cause for fearing starvation for some months to come.

THE KABYLE BEE.

The April *Revue* contains a description of the Algerian bee by M. Feuillebois, of Beni-Amram. In some English and American papers a correspondent claims to have found in Tunis a special race, which he calls Punic, or *Apis Niger.* We know nothing of such a race, and only know of one race which is found along the whole of the North of Africa (Egypt excepted), and which we call the Kabyle Bee, or black race of Kabylia. Why has this name of Kabyle been given to this race? Because it is in Kabylia that the bee-keepers on a large scale are found (I know one who has 1200 hives), and it is from Kabylia that the merchants obtain the bulk of their honey and wax. The inhabitants, who are without doubt the descendants of the Vandal emigrants in Africa, have maintained themselves in these mountains of Kabylia for centuries since their invasion. I therefore think it is to them that the honour of the name of bee-keepers should be given, and not to the Arabs, who are only nomads. The Kabyle lives in a stone house, whereas the Arab has nothing but his *gourbi*, which he changes from place to place nearly every year. The Kabyle is very intelligent, and he even practises migratory bee-keeping; when he has made a first harvest of honey on the low grounds, he transports his hives to the mountains on the backs of mules, and does not bring them down again until the second harvest has been gathered in, for the purpose of wintering them in the plains. It is the Kabyle who has cultivated bees for centuries.

In the month of April we had the very agreeable visit of Mr. and Miss Cowan; we shall always remember this visit and ask them to come again. We heartily invite them, and will be doubly pleased if M. Bertrand would honour us also with a visit. The editor of the *British Bee Journal* wanted to ascertain for himself on the spot if there was any difference between our bee and that of Tunis: he found none. Our bees received him very badly, and he was compelled to say they were vicious.

This is the third year that we have cultivated Kabyle bees here, always having more than 100 hives. I think this is sufficient to know a race thoroughly. Very well! our bee is a good worker; does not fear heat or cold; although the snow in 1890-91 covered our hives for three days, I did not lose a colony; but whether this would be the same in the cold countries of Europe I could not say. They are very prolific, often too much so; if they get the swarming fever, they continue to swarm persistently, and the last swarms consist of a few hundred bees surrounding a queen. These swarms are not worth anything, and no more is the stock in the end. I have often remarked that in an apiary there are some hives that occupy themselves principally with swarming; others, on the contrary, busy themselves with collecting honey, but as a rule our bees have a mania for swarming. It has happened to me that I have found hives with twenty-six frames of brood; I correct them of this fault by removing half the brood, and use it for strengthening recent swarms, or to make others. If the brood combs contain sufficient honey, part of it may be extracted, then, the hive containing half the combs empty, the colony will busy itself in looking for honey, and probably in a few days these industrious workers will supply us with combs fit for extracting.

If the Kabyle bees are inveterate at swarming, they are equally so at propolising. We frequently require an iron implement to detach the frames. In winter they, of their own accord, reduce the entrance with propolis, and the quilt is firmly fixed to the frames with the same material.

As to robbing, they rival in this respect their sisters of Palestine. In the autumn not more than eight to ten hives can be examined at one operation; then the work must be suspended, and not resumed for at least half an hour, and it is only in this way that the robbers leave you at peace. In Palestine we wished to continue our work notwithstanding the robbers, with the result that two hives were pillaged and the populations massacred, but we also

acquired experience. Very frequently, if there is any robbing going on, it is the bee-keeper who is at fault. Moreover, we are in a land of thieves, and people as well as animals try to appropriate what does not belong to them, and what has been acquired by so much labour and fatigue.

The Kabyle bees are vicious, but not worse than those of Palestine, which fly at a man and at once begin to sting, whereas ours commence by biting, and it has sometimes happened to me that, owing to my not moving, they have gradually retired.

I will for a long time remember an attack in Palestine, a short time after my release from military service, when I was terribly ill-treated. A year later two of my brothers were similarly attacked, as are also a camel-driver with his two camels, and two donkeys were killed by the stinging.

Let us, however, return to our bees, which are extraordinarily vicious this year. Gentle and docile at times and easy of management, they become dreadfully savage when honey begins to flow, or during stimulative feeding in spring. Also on days when the south wind blows, thirst makes them exceedingly vicious. One evening when this wind was blowing hard, May 25th, I was near one of my apiaries when a small and unimportant flight of locusts passed over the hives. The bees became furious and attacked them in the air, each locust being attacked by five or six bees. This fight lasted for half an hour, until darkness caused the combatants to retire, the bees to their hives and the locusts to the neighbouring vineyards.

I stated that the bees are extraordinarily vicious this year; here are a few incidents that have occurred this spring.

A donkey, belonging to my brother, who was near his apiary (probably in the bee-line) was so terribly pierced with stings that in twenty-four hours she expired. My horse, which was passing at a distance of about sixty metres from the apiary, was for ten minutes attacked by bees going to the water; fortunately we noticed it in time. My man found it rolling on the ground and cut the cord by which it was fastened, and the poor beast went off at full gallop and took shelter in a thicket of fig-trees. We rubbed it all over with rum and sedative water, all that we could find in the small village of Belle-Fontaine. Lastly, we covered the animal with a layer of well-moistened clay, and in two days it got better, but since this adventure it is no longer worth what it was.

Two jackals, rather curious to know what the boxes contained, approached them for the purpose of poking their noses in, but the Kabyle bees are not fond of hairy animals; in a few seconds the beautiful fur of our two quadrupeds was plentifully supplied with bees. Stung in all directions, the jackals became bewildered, and threw themselves to the right and to the left against the hives, which made their occupants still more furious. They at last managed to get out of this disagreeable neighbourhood, but were followed by thousands of bees and took to flight, reminding us of the foxes with the firebrands let loose by Samson into the standing corn of the Philistines. The next day their bodies were found in the brush-wood, 200 metres farther on.

From time to time we have orders for Kabyle queens. An Austrian bee-keeper tells me he is satisfied with one I sent him. Our bees will find an amateur here and there, just as in their time have done Palestines, Cyprians, and Carniolan bees. I hope French bee-keepers will try and study the race which lives in our beautiful colony, and it is for them to judge what can be done with it in France.

The honey harvest has not been so bad with us as during the two previous seasons, and we have obtained good results by migratory bee-keeping. At Beni-Amram and at Staoueli the harvest was very poor.

At the agricultural show at Mostaganem, I received the highest award for bee-keeping, consisting of a silver medal.—J. BALDENSPERGER, Corso-Alma.—*Revue Internationale.*

EMPTY BROOD COMBS—THEIR MOST PROFITABLE USE.

Sooner or later every bee-keeper is apt to find himself the possessor of a number of empty brood combs. If he seeks information from authorities as to the best way to utilise them, he is liable to receive very contradictory advice.

Some will tell him that these combs are very valuable: "As good as money in the bank;" "The sheet-anchor of success," &c.; while others will say that the best thing he can do with them is to melt them into wax. As usual, the truth will be found to lie somewhere between the extremes. Their value for use in the hives will depend very much upon circumstances. At times they are very valuable, and at other times they might better be thrown away than used.

The most natural and common use is to hive swarms upon them. We know that a new colony must have brood combs before it will do much at storing honey, and nothing could be more natural than to suppose that by giving them these combs already built, they will be greatly helped and enabled thereby to commence sooner the profitable work of filling sections.

But if we experiment carefully, we will often find that what looks so plausible in theory, does not turn out so well in practice. The colonies that we had supplied with full sets of ready-built combs somehow do not give as great a surplus of honey as those which had to build their combs anew. There are several reasons for this. One is, that bees, as well as human beings, will often take more time to patch up an old thing than to make a new one. Combs usually require considerable fixing over before the queen will lay in them.

The most serious objection to their use in this way is, that the bees will begin to fill them with honey at once, and will do little or nothing in the surplus department until the brood combs are full of brood or honey. Very often they are filled first with honey, and unless the queen is an unusually smart one, this honey stays there, reducing the brood-rearing capacity of the hive, weakening the energy of the bees for storing in the supers, and lessening decidedly the amount of marketable honey. If there are empty combs enough, they may have just as much honey put into them as would be put into the supers—perhaps more—but this honey will not be worth nearly as much as if it had been stored in sections.

As previously stated, the value of combs depends upon circumstances. There are times when combs may be very profitably used in hiving swarms, while under other circumstances we may find that we have used them at a loss. To use them advantageously, certain rules must be followed.

In the first place, if honey is coming in freely, and this honey-flow is not likely to last more than a month, which is the case nine times out of ten, too many combs should not be given. Nothing could be more fatal to the chance of securing a large yield of comb honey, than to hive the swarm in a large hive filled with finished combs.

Ordinarily the swarm issues during the early part of the honey-flow, which does not last more than two or three weeks longer—often a shorter time. At such a time the brood chamber should be contracted to a space equal to five Langstroth frames, and I think the fewer finished combs are used the better.

On the other hand, if swarms issue very early, before the main honey-flow begins, it will be found profitable to give them as many combs as the queen will occupy with brood before they are filled with honey.

As the honey-flow draws towards its close, it again becomes profitable to hive swarms upon finished combs, as otherwise the colony may not be able to build sufficient combs for its needs, in which case brood-rearing is restricted, and the colony rapidly dwindles. At this time, too, all colonies that have been hived in a contracted brood chamber should be looked over, and empty combs added as fast as they can utilise them. In this way colonies weak in numbers may often be brought up to good working strength in time for the fall crop.

The time when empty combs are most valuable is when it is desired to increase the number of colonies as rapidly as possible. With vigorous, prolific queens, plenty of empty combs, and judicious feeding when pasture is short, an apiary may be increased in numbers at a very rapid rate, and it is this very elasticity—the ability to recover quickly from heavy losses—that relieves bee-keeping of much of the uncertainty and risk that would otherwise make it a much more precarious occupation than it is.
—Jas. A. Green, *in "Am. B.J."*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A Breconshire Bee-keeper.—You will find the matter dealt with on p. 447.

G. Newman (Coldharbour Lane).—Honey, as sample, will be very acceptable for Chicago. It has been gathered from various sources, but contains a marked admixture of lime honey.

H. S. W.—We cannot think the sample of sugar sent is pure cane; but, in any case, moist sugars like that sent are not suitable for winter food for bees. Only refined crystal sugar should be used for wintering on.

W. H. B. (Catford).—The matter referred to is one altogether for the B. B. K. A. Please write to the Secretary, Mr. J. Huckle, Kings Langley, Herts.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE English Honey at 7d. per lb., in Tins containing 60 lbs. Sample 3d. Corrugated Packing Paper, 26 inches wide, 2d. per yard. Address T. Holliday, The Apiary, Astbury, Congleton, Cheshire.

FOR SALE.—Honey, Section and Extracted, about 200 lbs. Deposit System. Address Tetley Nickels, Day House, Shrewsbury.

PURE English Honey.—About Six dozen 1-lb. Screw-cap Super Extracted, at 9s. per dozen. Sample by post, 1s. Also 1 cwt. Fine Extracted, in 28-lb. Tins, at 7½d. per lb. Tins free. Address W. Hawkes, Barley, Royston.

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THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

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Editorial, Notices, &c.

SEASONABLE.

We cannot allow the present season of goodwill to pass without wishing a very happy Christmas-time to all our readers. It would seem, however, as if the usual Christmas greeting this year will be shorn of much of its appropriateness, for, unless a very rapid change occurs, there will be neither snow nor frost to make the weather a bit "seasonable."

It is at all times difficult to tear oneself away from the editorial "shop," and at the present time our surroundings are of so unusual—indeed, remarkable—a character that we cannot refrain from saying a word about them. We are, in fact, in the midst of "sweetness," almost literally up to the eyes in it, for so incessant has been the receipt of boxes, jars, tins, and parcels of all kinds for the last twenty-four hours that it is no wonder we can hardly find time for writing these few lines to say why no "Editorial" or "Useful Hints" appear this week. Honey for Chicago has carried all before it, and it is honey all over the place as we write. We never had so many "Christmas boxes" on our hands in all our life before, for which we are as thankful as a good "British exhibit" at Chicago ought to make us.

THE SCOTTISH B.K.A. ANNUAL REPORT.

Kindly allow me space to say the members have not responded very numerously to the circular recently issued by me on behalf of the founder of the Association, Sir Thomas D. Gibson Carmichael, Bart., inviting them to furnish reports of the past season in their respective districts. The information is asked for the purpose of being embodied in the forthcoming Annual Report.—JOHN WISHART, *Assistant Secretary S.B.C.K., Melrose, N.B.*

THE NEW THEORY ON POLLEN-GATHERING.

A REPLY TO "THE SCIENCE OF BEE-KEEPING —CRITICAL."

(*Concluded from page* 487.)

Plants are also benefited by the bee by being fertilised with pollen that has, by insalivation, been forced into growth before being applied to the stigma of the flower. And while the flowers of the whole of our garden and orchard fruit-trees that are visited by the bees allow of being fertilised by insalivated pollen, it is only in some of the others that we find special dispositions to prevent that. Of this kind is the common broom, of which each flower must be fertilised by dry pollen.

I have not said, nor have I implied, that the velum and pecten on the fore legs, hitherto known as the "antennæ-cleaners," were not used for that purpose, or would cease to be called by that name. I have shown that during the manipulation of pollen in the mouth of the bee they were used as "tongue-extenders," and had accordingly to be designated as such. They may therefore bear the dual names of "tongue-extenders" and "antennæ-cleaners," one name or the other being used according to the work spoken of. That the bees may easily be seen cleaning their antennæ with these organs as they leave the hive appears to be a universally accepted fact, and I shall now say that it is still easier to see them used as tongue-extenders once attention has been called to it. Each time these organs are passed over the tongue it is extended at great length: this is done every now and then a large number of times during the formation of each pair of pollen pellets.

Once we know exactly where to look and what to observe, it is comparatively easy to see certain things which otherwise might remain entirely unperceived. And I may say that the placing of the handfuls of prepared pollen between the compressors by the centre feet is more easily observable than that of the passing of the antennæ-cleaners over the antennæ; and, moreover, as the ends of the centre feet disappear between the compressors, we have the absolute certainty that the pollen has not been placed outside. Another advantage in this particular case is that when the bee first starts gathering pollen, several handfuls of the prepared material are placed between the compressors before they begin work, and if we sever the hind legs from a bee at this juncture and

examine the compressors under the microscope the prepared pollen is seen at the lower end of each, near the tarsus. There is then no alternative but to admit that these handfuls of prepared pollen are operated upon by a special apparatus, by no less than sixteen or eighteen combs or rows of bristles (eight or nine in each compressor), and that they are under very active operation for some time before they can travel from the lower end to the upper part of the compressors, when they enter the wide and specially organized pollen passage adjacent to the articulation of the joint between the planta and tibia of each hind leg. We cannot, therefore, with reason pretend that this *apparently important* and *never-dispensed-with* operation, which the prepared pollen undergoes between the compressors, has no object or purpose.

I shall now describe more at length the compressors, or "prepared pollen apparatus," popularly called "the brushes."

The "skin" at the end of the planta, near the tarsus, is raised, as is also *that* along both of its sides, so as to form between the rows of bristles so many shallow, oblong "troughs," one between each two rows, the ends of each trough being formed by the "raised skin" at the sides of the planta, and their sides by the "slightly raised chitine" along the base of each row of bristles, so as to keep the pollen under perfect control while it is being actively operated upon in the "main cavity," which is formed by this arrangement.

The main cavity, which is formed as above described, and which occupies the whole inner face of the planta, is of greatest depth at the end near the tarsus, and decreases in depth and also in width as it approaches the other end, near the articulation with the tibia.

The largest and deepest of the troughs is that adjoining the end row of bristles, near the tarsus, and it is in this trough that the handfuls of prepared pollen are placed by the centre legs. Each trough, after that, decreases in size or capacity, the smallest being near the tibial articulation.

The main cavity in each plauta occupies one half of the entire cavity formed when both compressors are combined. When the hind legs are operated, each forward stroke causes a diminution in the space occupied by the pollen between the two compressors, and a corresponding quantity of pollen is thus forced forward through the pollen passage.

The bristles in each row are a certain distance apart, so as to allow those of the opposite planta to work between. When the two compressors are brought together for operating the pollen, their opposite bristles, which all point backward and are flexible, bend slightly under the pressure applied, and thus each row fits the concave surface of the troughs in the opposite plauta, immediately resuming their ordinary condition when released.

The fact that all pollen for the pellets has to pass by the mouth of the bee to be prepared; that the pollen gathered by the front and centre legs is deposited under the thorax; that the tongue is extended by the fore legs to draw a fresh supply of saliva; that all prepared pollen has to be operated upon between the compressors before being formed into the pellets; that such pollen has to pass through the pollen passage situated between planta and tibia; that the hind legs are not used to gather dry pollen; as well as several other incidental facts resulting from these—the whole of which are the result of years of close and constant study of the habits of the bee with reference to the special subject of pollen-gathering—I consider as resting on a perfectly secure foundation. I have attempted to uproot some long-standing errors, which have only served to mislead us.

It is quite possible, nay, probable, that I am myself not entirely free from error on all points dealt with, but I feel confident that a thorough investigation of the theory which I have developed will tend to confirm generally the facts to which I have drawn attention.

I have only referred to such errors in our standard bee-works as, dealing with the subject in hand, are especially endorsed by the authors themselves, and I have avoided mentioning any in which the authors quote, without committing themselves to the views expressed, such as the one to which Mr. Grimshaw has referred in concluding his critical remarks on page 441. The same thing appears, in some form or other, in several bee-works published before that of Mr. Cowan. Thus we read:—"On entering a flower, a bee often covers itself with pollen, and hence the need for a brush apparatus on reaching home.' (The *Apiary*, by Alfred Neighbour, page 98, third edition, 1878.) While the meaning is the same in both cases, it will be observed that neither Mr. Neighbour nor Mr. Cowan appears to say that the bee uses these "brushes" to remove the pollen from the body while outside the hive. The very resemblance which the compressors bear to a brush is certainly the main reason why it has always been erroneously considered that they were used as such. And their close proximity to the tibia, which does the work of removing dry pollen from the body, has helped on the delusion. We have here a striking proof that we must not always judge of the use of anything merely by its superficial appearance. And in the present instance we also find an example of the adaptation of an organ—the "foot," or planta, to a function widely different from that which is usual to it.

I have yet to learn that any subject, the elucidation of which is dependent on bee-keepers, and beneficial to them, is outside, and not *within*, the science of bee-keeping; that the laws which govern pollen-gathering by the bee are not a part of the science of bee-keeping; *that* science, according to Mr. Grimshaw, must be very limited in its scope.

Mr. Grimshaw's remarks may be witty, but so far, the theory which I have developed remains whole. I sincerely thank him, however, for having furnished me with an opportunity of

enlarging on the subject of my essay, which I might not have done had his criticism not been published.—PETER BOIS, *Jersey*.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17 King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HOW TO OBTAIN HONEY IN POOR DISTRICTS.

[1271.] I do not mean to offer any suggestions as to how honey may be obtained in bad districts, where it is not; but in such localities as mine, and in such country as is round about Skipton, for instance, where the only white clover that is allowed to remain in blossom is on the grass margins. The crop of summer honey is so meagre that it only suffices to keep the bees in a hand-to-mouth supply of food, just enough (and barely that) to enable them to fill the hives with bees. If, however, the season be a little better than usual, a crate of sections may be found about half filled, or perhaps a few nicely capped sections may be *stolen* from the centre of the crate. Such a thing as removing a twenty-one-pound crate filled is not on record, even in the best of seasons. As for shallow-frame extracting, this is done in fair seasons when cells are filled (not waiting for capping, lest a break in the weather occur about the middle of July), then feeding has to be resorted to, or there would be the probability of hives being nearly devoid of food by the first week in August, the time we generally go to the moors, where the same conditions may obtain—that is, a wet season for the ling may compel the bees to stay at home and eat up stores. In this *poor* district, then, in the best season since 1886, I only obtained an average of thirty-two pounds per hive (that was in 1889).

In the *B. B. J.*, November 23rd, 1886, in an article on "Obtaining Heather Honey," I wrote as follows:—"I suggest to such of your readers as are troubled by these difficulties a way out of them. After extracting all flower and clover honey at the end of July, feed eight or nine frames with syrup rapidly, and carry out the hive to the ling, *heavy* instead of *light*. If the heather be late in blooming, or the weather wet, instead of starvation staring them in the face the bees will be all right, attendant upon propitious conditions for gathering. When the flow of honey comes in they will be *compelled* to go up aloft instead of wasting their best energies in gathering stores for themselves *versus* ourselves."

I have harped upon this string several times since then, but have found no responsive chord; rather the reverse, for I was met by the suggestion that the bees might, when sections were put on, run the syrup upstairs into them. I was also told the idea ought not to be encouraged lest dishonest people might be tempted to feed, or continue feeding in bad weather, whilst supers were still on. Thus I yielded to this sentiment, much to my detriment as I now think. The unscrupulous bee-keeper must not enter into our calculations, for he can practise his vile acts and sophistications without need of any suggestions from such as I. Fortunately, the animal is rare in these islands, and when caught (case in point: "Boiling Ling Syrup," Scotland, 1892) is promptly spotted and tabooed.

To the honest man there is really *nothing* against the practice I propose, which is, not with the heather crop alone, but with the summer crop, to *slowly* feed during spring, and, watching the white clover, *rapidly* feed about twenty pounds into each hive about a week before the clover will be fully out. This will give some two or three pounds to the upper portions and edges of brood-nest frames. If any one raise the objection that this procedure is likely to interfere with the laying of the queen by filling up with food cells she would otherwise have laid eggs in, I would reply that two days' rapid feeding is all the time required by a strong stock, and, as the man said, "I shall be there at the time." So will the queen. Far better to be without a day or two's eggs, and have plenty of food, than have the said eggs and not the wherewithal to feed them.

The bees would then store nearly the whole yield of a fortnight's bloom in the supers, shallow frame or otherwise. We could then remove it as soon as ready, and repeat the process a week before August 7th, say (but this depends on the locality, and the state of the moors should be obtained), before taking the hives to the heather, when we hope the bees would likewise repeat the process.

The only thing to religiously adhere to is never to use supers and feeders together.

I was impelled to give these remarks by reading in *Gleanings* of September, 1892, some words by our friend, Ernest Root. He says: "Mr. Boardman made some elaborate experiments during the last spring in feeding. He was satisfied that, had he not fed liberally, he would have secured little or no honey. When the honey did come (the brood nest being well supplied), it was, as a matter of course, forced into the sections. The result of his experiments in feeding, both as to the time and manner in which it was done, was exceedingly interesting, and it is no more than fair that I reserve this

for him to describe himself at some future time."

I want the British bee-keeper whose "lines have not fallen in pleasant places," whose hives are not planted in pleasant places, to get as much pure honey as he honestly and legitimately can, and I think my suggestion, *although six years old*, will help him to do so. I repeat what I have said elsewhere, that my best year at the moors was after practising my plan.—R. A. H. GRIMSHAW, *Horsforth, near Leeds.*

NOTES BY THE WAY.

[1272.] The state of the weather in December is not a very interesting topic to the bee-keeper from an apiarian point of view; he is more interested in the state of the store of food in each hive, and where this was attended to in October, his mind can rest in peace as regards his bees; but, thanks to the introduction of bee-candy, where any doubts are entertained as to the sufficiency of food, a cake of candy can be given at any time, with little or no disturbance to the colony, to eke out the deficiency.

The subject of honey jars still receives considerable attention, and both sides have expressed their views on the subject, but neither the one nor the other has defined the size bottle required to hold sixteen ounces of honey. Will some one do this for us—define the capacity of a bottle or jar to hold exactly one pound avoirdupois of honey, and let it be a good shape, with a screw-cap that will not leak? We don't want it to hold eighteen ounces, as I have had so-called tall one-pound honey jars, holding seventeen, seventeen and a half, to eighteen ounces. And when you have to fill these said jars and deliver same, carriage paid—sometimes on two rails—at 9*s.* or 9*s.* 6*d.* per dozen, labelled ready to put into a customer's hand, I would ask, Where is the bee-keeper's profit to come in? He may consider himself lucky if he secures 6*d.* per pound for his honey. Probably the bee-keeper, who is zealous to be true and just in all his dealings, would fill these said tall jars with honey, but I consider seventeen or eighteen ounces as unjust as fifteen ounces if sold as a pound. Besides, honey varies considerably in density, and therefore the jar that will hold sixteen ounces of honey of good consistency, would not hold the same weight of thin, poor honey, and, notwithstanding all that has and can be said against nominal one-pound bottles, they will still form the bulk of the bottled honey trade of the future, and the *public* will still continue to ask for a jar of honey the same as for a loaf of bread or a pot of marmalade. Nor will the salesman have any more qualms of conscience in handing one over the counter than he does the other.

I have seen honey put up in nominal one-pound bottles by some of the large firms in London that the grocer can sell, at a good profit, at 9*d.* each—clear, bright, fair flavour—labelled *Pure Honey*. How can we bee-keepers hope to compete with these prices?

Why, if we adopt the "Wells" system, and increase our output of honey by one-half, we shall not be able to do so—this starts another train of thought, and doubtful questions will crop up as soon as one thinks of this system; first, why should a perforated dummy between two colonies, and a super common to both colonies above the perforated zinc laid on brood frames, increase the output of honey from that hive of two colonies working in common, than if the dummy or dividing-board were plain, and each colony worked in separate supers? Who will answer this question? I have a few twin hives, as they were called when first brought out early in the eighties, and my bees have done very well in them, but they are not so handy for manipulating as a single hive, and, notwithstanding the thin wood dummies in use between the colonies, the said colonies do not cluster close on each side of the thin division-board for mutual warmth, as the idea and expectation was that they would do when the hive was first introduced; and, of course, being quite separate colonies, the results of each season have been classed as two colonies—thus, if the twin hive produces in a season one hundred and forty pounds of honey, I should say those colonies have both produced seventy pounds each—not say, *that hive* has been the best in the apiary this year.

I am pleased to see some one has pointed out the absurdity of the cutting going the round of the papers on "The Wonderful Work of Bees." When I saw it in our *Journal*, thinks I to myself, if a pound of honey entails so much labour and journeyings to the busy bee, how many journeys have to be made to collect a ton?

"E. B." (1257, p. 481) touches a sore that requires probing, and if possible, healing; the only course open so far as I can see is to educate, educate, educate. I think the principal reason that the cottager is blamed more than the keeper of bees in frame hives is from the fact that he is not able to inspect his hives; so that it is only at taking-up time, when he breaks up his combs to drain the honey out, that he gets a real examination of the interior of his hives, and as the job of bee-taking is generally done in the shades of evening, by the help of a neighbour (who probably is not a bee-keeper at all) to hold the lantern, then, after the smotheration, the hives are taken into the house and the good-wife commences to break up the combs into a hair sieve, or into a piece of canvas, tied over a large earthenware pan, into which the honey is drained, and after the breaking up of the combs the whole is lifted into a dark corner of the back kitchen, or into the pantry, to keep the bees from troubling the housewife on the morrow. Now, I ask, how is the bee-keeper to discover that he has foul brood unless he has been educated up to the alertness of an expert? Therefore, I repeat, we must endeavour to educate our bee-keepers with a knowledge of the diseases of bees and the best means of preventing and eradicating the disease when it has gained a foothold, and the best sanitary means of keeping

it at a distance. "E. B." tells a sad tale of his bar-frame hive bee-keeping neighbours. Surely the fact of their having frame hives bespeaks them a certain amount of education in bee-matters; but possibly this little knowledge they possess is dangerous, not only to themselves, but also to their neighbours, as by the knowledge they have they may open up their hives and display the interiors to their friends, or to gratify an inquisitiveness of their own, and thereby get chilled brood, which, as the merest tyro knows, forms a very hotbed of foul brood; so that not only have we the straw-skeppists to educate, but also the novices in modern bee-keeping. How shall we begin this crusade against this evil to our craft? Perhaps our far-seeing ones will lead us on into more light on the best means to reach the great mass of bee-keepers on so momentous a subject.

We are nearing the festival of Peace and Goodwill towards (and I trust between) Men, especially bee-men; we have already reached the period of the year when we can tot up the success or otherwise of the year that lies behind, and even where our efforts have not attained that success we hoped for, most of us have many things to be thankful for even as bee-keepers. May Christmas fare with Christmas joys attend the festive board of all, is the earnest wish of—W. Woodley, *World's End, Newbury.*

MEDICINAL PREPARATIONS CONTAINING HONEY OR WAX.

[1273.] With the object of practically demonstrating the utility of honey and wax as curative agents for many of the ills that flesh is heir to, the Scottish Bee-keepers' Association had a collection of specimens prepared for their last exhibition, which took place in the Waverley Market, Edinburgh, in September. In addition to the medicinal preparations a few other articles containing honey or wax in some form or other were shown. They embraced such widely different articles as toilet preparations and furniture creams. It is not claimed that the Scottish Bee-keepers' Association collection is by any means complete, and I would be glad of suggestions, through your columns, regarding preparations that might be added to make it more interesting and instructive. We have twenty-five specimens all shown in neatly labelled screw-cap four-ounce bottles. A separate label affixed to each bottle gives the proportion of honey or wax contained in each of the preparations. We have seven specimens of ointments, all official preparations of the British Pharmacopœia except simple ointment—the *Ung. Cereum* of the druggist. There are five varieties of plasters included in the collection, all of which contain wax as the medium for the more active ingredients. Prescribing medicines in the form of confections was once much more practised than it is now. They are duly represented, as are other preparations containing honey, such as oxymel of squills and borax and honey. We propose to exhibit at our shows in future a collection of confectionery, foods, and beverages containing honey, and I shall be glad to have suggestions on the subject from readers of the *British Bee Journal.*—John Wishart, *Assist. Secretary, Scottish Bee-keepers' Association, Melrose.*

SIZE OF SECTION RACKS FOR DOUBLE-QUEENED HIVES.

[1274.] Replying to the question put to me by "J. H. N." (1258, p. 482), he can either have his section racks made to hold forty-two sections and to cover the whole surface of the top of his frames, or he can use those holding but twenty-one sections by placing them end to end; but in the latter case he must cut away a bee-space from ends of the two racks which meet in centre of hive, thus giving the bees free access to all the sections. But by no means must he remove the perforated division-board; and if he mounts his queen-excluder zinc on strips of wood a quarter of an inch thick, be sure to let one of these strips be placed so that it runs right along over the top of division-board (perforated), when the excluder is in position between sections and tops of frames, or the zinc might buckle a little, and possibly let one of the queens slip over the top of division-board, which of course would entirely frustrate the object in view.—G. Wells, *Aylesford, Kent, Dec. 13th.*

A QUADRUPLE HIVE.

[1275.] Being one of those bee-keepers who manufacture all their own appliances, I have made a hive to work something on the "Wells" system. It is of three-quarter-inch stuff, thirty-six and a quarter inches square outside measure, and holds four stocks of bees with their respective queens, the whole occupying forty-four standard frames. The dummies, or perforated division-boards, are three-quarters of an inch thick, with plenty of small holes, so that the warmth may pass from one stock to the other. A large queen-excluder will cover the tops of all the frames to keep the queens apart, while the bees of the four stocks will have free access to all the sections and shallow frames placed above. If so disposed, I can have 128 sections at one time on the hive. I am going to try this big hive next season, and will report results, whether successful or otherwise.

I have forty stocks, in frame hives and skeps, and have not had a single swarm this year. From one of my skeps, having a square wood top, I took this season two boxes of honey in shallow frames (thirty pounds in each), two racks of twenty-one one-pound sections, another rack with ten of the same size, and finally an octagon super holding ten pounds of honey, or a total of 122 pounds from this single stock. We

are fortunate in having a fine flow of honey from the gooseberries, on which the bees were at work early in the season.—H. SEAMARK, *Willingham, Cambs.*

[Of course it is not for us to object if readers choose to try combination hives holding four, or, indeed, any number of stocks of bees, and we shall be very pleased to report a success if the experiment turns out such. There must, however, be a limit to such things, and we advise our correspondent to try one only of these "big hives," because, without desiring in any way to stifle experiment, we venture to say it will be a great surprise to us if a second one is ever seen in his apiary.—EDS.]

BEES IN WARWICKSHIRE.

[1276.] We bee-keepers in Warwickshire have not had an average take of honey this year. My average was thirty-two pounds per hive, twelve hives. We have been troubled with honey-dew. I sent post-cards advising bee-keepers that I had visited to take off the sections when I found that the bees were bringing in very dark honey, but only two took my advice and removed them in time. The sections were in consequence unsaleable and had to be fed back to the bees.

I am working two hives on the "Wells" principle, and would be pleased to show and explain their working to any one who may pay me a visit. To-day the bees are taking in a little pollen.—R. FRENCH, *December 14th.*

THE "WELLS" SYSTEM—CHICAGO EXHIBITION.

[1277.] Through your columns I would like to thank Mr. Wells for his great kindness and disinterestedness in explaining to us bee-keepers his method of obtaining such large quantities of honey from his hives by the two-queen system, which information he might very justly have kept to himself had he been so minded, and I regret to see that some of your correspondents appear inclined to "heckle" him as if he were a candidate at a parliamentary election. While upon this point, I think your foot-notes to 1260 and 1262 might be read with advantage by some of your correspondents, who appear to consider that other correspondents write for some personal motive of their own instead of for the benefit of bee-keepers generally. Among this latter class, I have to complain of Mr. Garratt's criticism (1234, p. 460) upon Mr. Blow and myself in regard to our remarks upon honey for the Chicago Exhibition; not that I object to being criticised fairly (as I think I can defend myself tolerably well), but I object to his stating that we "must surely be suffering under the remembrance of some personal feeling of slight or disappointment." This is a matter upon which he can know nothing. I cannot answer for Mr. Blow, but it is certainly not my case. It is true I had another reason, which, out of compliment to those who differed from me, I did not care to express; but if Mr. Garratt is at all inquisitive upon the point, I shall be willing to inform him privately.—A. T. WILMOT, *St. Albans.*

Queries and Replies.

[698.] *Working Double Stocks.*—1. I should be glad to know whether the plan for introducing two stocks of bees into a double hive, proposed by "E. B.," on p. 472 of *B.J.*, December 1st, is a safe one, viz., to bring two hives gradually together, and then transfer the frames and bees to the respective compartments of the double hive, with perforated dummy between. 2. If this were done in favourable weather in March, would the bees be sufficiently "naturalised" to let them work into a common super in May? 3. Whether there is any advantage in having the entrances of the two compartments adjacent to each other in the centre of the hive, or would it not be better if the entrances were at opposite ends of the hive, parallel to dummy, as there would be less difficulty in manipulating at swarming-time? If this method of transfer is likely to succeed I propose trying it this spring, and shall therefore be grateful for advice.—LINCOLNSHIRE RECTOR.

REPLY. 1. There is nothing unsafe in the plan proposed by "E. B." 2. Yes; three or four weeks will secure all the advantages of the perforated division-board. 3. There are advantages in working double-queened stocks when both entrances face the same way, and, so long as the wedge-shaped arrangement, described by Mr. Wells, on p. 133 of *B.J.* for April 3rd, 1892, is adjusted properly, we prefer that plan.

[699.] *Using Flour in Uniting Bees.*—You mention in your *Journal* a method of uniting bees "with flour." I have not come across a description of the procedure adopted in my reading. Would you kindly give me an explanation of how it is worked, or, if it has appeared in the *B. B. J.* during the last twelve months, refer me to the article?—A CHESHIRE FALCON, *Brooklands, December 16th*, 1892.

REPLY.—The first mention of flour as a pacifier of bees appears on page 462 of *B. J.* for September 25th, 1890, since which time it has been often referred to; but the full details of the plan appear only in the number referred to.

[700.] *Bees Short of Food.*—I have been very successful with bees for the last six or seven years, but this year, 1892, has been an unusually bad one for honey in this part of the country. From five frame hives I was only able to take about fifty pounds; this I took in the middle of June, after that the bees gathered no honey. I had two swarms the 1st of July, which makes a total of seven hives at the present time, all bar-frames. On the 1st of October I ex-

amined them, and found to my surprise each hive full of bees—all healthy—with queens and only about three pounds of honey. I at once got twenty-eight pounds of cane sugar—as advised in the *B. J.*—and gave each hive four pounds of candy.

I should mention that the bees are only in my care, and as my employer has no idea of the management or requirements of bees, you will greatly oblige by telling me through the *Bee Journal* how to proceed. They are alive as yet. —J. M., *Thurles, co. Tipperary, December 13th*, 1892.

REPLY.—If the soft candy is properly made, and the bees are taking it now, there will not be a very great risk of starvation so long as the supply is maintained. When each cake is, say, about three parts gone, give another, but make quite sure the candy is being taken, and also that it keeps *soft*.

[701.] *Self-Hivers.*—Will you kindly let me know if, in your opinion, a self-hiver should automatically prevent the queen of a swarm returning to the hive, *or not?* I am making one to answer the purpose, which I think will not obstruct the entrance of the bees to the hive when returning laden with honey and pollen, and which can be adjusted at once for frame hive or skep.—G. W. HOLE.

REPLY.—To prevent the queen from returning to the hive while capturing her in a spot or place where the bees of the swarm may join her, is precisely the aim and object of the self-hiver. So far, however, a perfect article for the purpose has not been devised—at least, in this country—and you will do the craft a great service if you succeed in hitting on the right idea. But we advise you to give a practical trial to whatever device you may invent before bringing it to public notice.

Echoes from the Hives.

Honey Cott, Weston, Leamington.—Last week we had a sharp touch of wintry weather with a lot of snow, nearly four inches. It began to melt, so I thought I must just go up amongst the hives and brush off the snow. No small job to sweep about seventy hives, and only about half an hour to do it in. Didn't I think about "X-Tractor" and his bacon-boxes! How I should have liked it to have melted of its own sweet will! but, nevertheless, I could not endure bacon-boxes, or find a place to put them when not in use. I have found several roofs that I have had to see to at once, taking them down to the house to be dried so that they could be painted, while others I have dried, and painted the cover well, and then tacked on some stout calico, and well painted them afterwards. The lowest temperature here was about nine degrees of frost. This week we have had quite a change to mild weather. To-day has been warm and sunny, and the thermometer up to fifty-two degrees in the shade. The bees were out in great numbers. I could not help going up amongst them to hear their cheerful hum; but as a rule, after such a turn-out, we generally get some rough weather within a day or two. (December 15th.) It is all very well for our friend "J. B. R." (1263, p. 487) to say he will not take less than 1*s.* per pound for his honey. I think he would have to keep some of it a long time before he got that price round about here. I have some seasons, although not this one, been glad to clear out extracted honey at 6*d.* per pound. This brings me to have my say about the honey bottles where we have to wholesale it at 9*s.* or 10*s.* per dozen. It is quite within our right to sell at so much per dozen bottles as well as per dozen pounds. If any one asks me for pound bottles I would let them have them, but at a higher price. I have sent you an old *B. B. J.* for July, 1876, so that you may see what I said about hives two feet six inches long with a division-board and two stocks in each. The reason I abandoned it was, that when one lot started to swarm the other stock got the fever too. However, I do not think that I tried to work the two stocks into one super as Mr. Wells has done.—JOHN WALTON.

WEATHER REPORTS.

BAGNALSTOWN, IRELAND.

November, 1892.

Rainfall	3·87 in.
Greatest fall in 24 hours, 14th	·50 „
Number of days on which rain fell	20 days.
Maximum temperature, 23rd	55°
Mean max.	51·3°
Minimum temperature, 1st	31°
Mean min.	39·4°
Min. ground, 1st	19°
Frosty nights	9

JOHN HENDERSON.

REVIEW OF CONTINENTAL BEE JOURNALS.

BY J. DENNLER.

Revue Internationale d'Apiculture. Edited by Ed. Bertrand. 14th year.—At the autumn general assembly held in Lausanne on the 19th September M. Ed. Bertrand introduced for discussion the interesting subject of "Heredity in Bees." He thinks this question is worthy of being studied, as it has a great importance in the practical part of bee-keeping. We seek to obtain colonies possessing as many good qualities as possible — prolific queens, active workers, capable of collecting honey, hardy, prudent in their excursions, able to defend themselves against robbers, &c. These good qualities in bees, as well as their defects and instincts, are inherited. The young bee sets to work to feed the brood

without being instructed. Later she produces wax and constructs combs without apprenticeship. At last some fine day she leaves the hive, and, after taking her bearings, goes in search of water, honey, and pollen. These instincts are not possessed either by her father or mother. The unique function of the queen is to lay eggs, and that of the male is still more restricted, notwithstanding his importance. How are these marvellous instincts of the worker transmitted from generation to generation, because she has not of herself any descendants? Would it not be through the brood food which she distributes to her infant sisters that this transmission takes place? This food is the product of her organs and secretions of certain glands, similar to the milk of mother-nurses amongst the mammalia.

M. Bertrand and other bee-keepers have observed that colonies for many years retain the same character, either good or bad, notwithstanding that the queens raised in other colonies had been from time to time introduced. This character must therefore have been transmitted by the nurse-bees maintained in the hives, notwithstanding the change of queens.

[The subject has already been treated in the *Revue*, and Mr. Grimshaw's paper on the subject, translated from the *British Bee Journal*, has also appeared in full.—EDS.]

M. Bertrand also observed that if this influence of the character of the nurse-bees on their successors really exists, there are two points to be considered in practice. 1. The introduction of a strange queen into a hive does not of itself suffice to change the good or bad disposition of the said hive. 2. The feeding of the royal larvæ must only be entrusted to hives in which the workers possess desirable qualities.

M. Descoulayes observed that the workers were not only nurses, but also teachers, and in this way they exercise an influence on their progeny.

M. Bretagne thought that bees were governed by the same laws as other animals. For instance, with horses it is said that half the race is formed by what enters through the mouth. It must be the same with our insects. To have good nurses he thought it might be advisable to exchange the places of colonies.

Bulletin de la Société d'Apiculture de la Somme. Eighteenth year.—*A Curious Story about Bees.*—A very interesting discovery was made by a French naturalist, M. Guillemette, during his last exploration in Australia, where, in May, 1884, he observed on some eucalyptus trees, at a height of about seventy-five metres from the ground, a singular hut fixed to the branches, around which black bees were swarming. The explorer had one of these gigantic trees, about nine metres in diameter, cut down, and he then found that the hut was a natural hive, weighing more than 2000 kilos, and containing more than 1500 kilos of delicious virgin honey. This discovery was the subject of a very interesting communication, made by M. Thomas Caraman, at one of the recent meetings of the Academy of Medicine in Paris. The English seem to doubt the authenticity of the above story. Some, not daring to deny the figures quoted, state that the honey collected contained per 1000 parts, 611·6 of sugar (the greater part levulose), 1·8 of ash, 215·6 of moisture, and 171 of other substances, such as eucalyptol, cymol, colouring matter, &c. Others state that the bee which collect this honey is not *apis nigra mellifica*, as it is named by M. Guillemette, but a species of melliferous insect called *Trigona carbonaria*, which, however, places its honey in crevices of trees, and never yields more than two to three kilos of honey, its nest not being more than thirty centimetres (nearly twelve inches) in diameter. The same sceptic thinks that the weight mentioned comprises also that of the part of the tree in which the bees stored their harvest. As for ourselves, we have entire confidence in the veracity of our fellow-countryman.

Bulletin de la Société d'Apiculture de l'Aube. 29th year.—The members of the Aube Bee-keepers' Society have just addressed a petition to the senators and deputies asking for legislation and the introduction of a clause by which the product of flowers, honey, shall be, like fruit, included amongst the products of the soil. We understand, however, that the Chamber of Deputies has refused the privilege asked for.

Opinion of M. de Layens on Foreign Races of Bees.—During the bee exhibition held at Liege, M. de Layens said: "I have been frequently asked my opinion about foreign races of bees. I replied that I have had them, but have given them up because I found in them more disadvantages than advantages. Theoretically, the crossing of one race with another may present some advantage, but in practice these crosses often produce a very vicious race. I have found it very unpleasant not to be able even to simply approach hives without being attacked; and if, as far as regards myself, I am impervious to stings, it is not so with my neighbours, with whom, above all things, I desire to be on friendly terms. Moreover when several races are kept in one apiary, they frequently quarrel amongst themselves, they being by nature robbers; hence, constant attention is required, which means additional labour. It has also, by no means been proved that the foreign races are superior to our fine bees of the Ardennes." M. L'Abbé Boyer adds: "I think that our French bees are any day better than foreign bees. For when the honey-flow is at its height we see them collect enormously. They sometimes get as much as eight to ten kilos of honey in a day, and what more is wanted? It is only the large advertisers who have eyes that see nothing."

L'Apiculteur. Founded by H. Hamet.—A bold individual, M. Deschamps, has imagined a happy idea. Please to judge! He conceived the idea of showing the Parisians bees at work. For this purpose he selected the week of the 14th July—that is to say, the week when there are most people in Paris, and for locality, the Boulevard Saint-Martin, close to the Ambigu Theatre, where the circulation

of foot passengers and carriages is the largest. He set up three observatory hives, having different forms of frames, in a small kiosk, and for the small sum of twenty centimes (twopence) every one could examine for himself this extraordinary work, which always strikes the imagination when it is seen for the first time. "Our little creatures went in and out, and did all their work without appearing the least tronbled amongst the surroundings to which they had been brought, certainly strange to them, and very different to what nature had destined them. There was not a single sting to record, and the bees worked well, and were comfortable." We congratulate this inventor, who has become our ally in propagating a love for bees.

Schwirtzerische Bienenzeitung. Editor, J. Jeker. Fifteenth year.—*Statistics.*—During 1890 there were imported into Switzerland 2695 hives of bees, of the value of 48,510 francs; and exported 181 hives, of the value of 4713 francs. The honey imported amounted to 3158 cwt. value 300,010 francs; the export of honey was 139 cwt., value 29,912 francs; 1033 cwt. of wax were imported, valued at 309,900 francs; and 70 cwt. of wax were exported, valued at 13,355 francs. The imported honey represents a value of 95 francs per cwt., while the same quantity of exported honey was worth 215 francs. What a difference in price!

Münchener Bienenzeitung. Fourteenth year. Editor, Dr. Stautner.—A very simple method of ridding a queen of her parasites (*braula cœca*), according to a veteran bee-keeper, consists in sprinkling her with snuff. This can be done without removing the queen from the comb; and the parasites at once leave the queen and drop on the ground. Dr. Stautner has tried this plan, and found it excellent. Quite a small dose of snuff is sufficient to cause these inconvenient creatures to fall, and they can then be swept from under the frames, and be got rid of out of the hive.

Ungarische Biene. Editors, Grand and Kühne. The two Hungarian journals, the *Ungarische Biene* and *Blätter fur Bienenzucht*, have just been amalgamated, and will now appear under the title *Ungarische Bienenzucht*. This journal is now, as far as regards the value of its contents, amongst the best bee-papers. Hungary exported in the first six months of 1891 honey to the value of 81,751 florins, and wax valued at 123,352 florins.

Formic acid, which exists not only in the poison glands of the bee, but also in a larger measure in a gland at the posterior part of the red ant, is also found in the hairs of the processional caterpillar, as well as in the perspiration of man. As a cure for foul brood, 100 grammes of concentrated formic acid are used, which is allowed to drop from a very fine jet placed at a considerable height on to the empty comb, which is then placed behind the other combs, having first removed all the superfluous ones. It is also a good plan to well rub formic acid into the inner walls of the foul-broody hive.

Luxemburger Bienenzeitung. Editor, Kellen.—*The Right of Ownership of a Swarm.*—Last summer a swarm of bees entered a hive filled with combs in a neighbour's apiary. This man first had the intention of purchasing the swarm of its owner; but gradually he began to think that the swarm really belonged to him by right, because it happened to find itself in one of his own hives in his apiary. A long process of litigation ensued, and he was not only condemned to pay for the swarm, but also all the expenses of the lawsuit, which amounted to a considerable sum.

THE KEEPING OF BEES FOR PROFIT AND PLEASURE.

That bee-keeping will compare favourably with any other pursuit in life, I firmly believe, and the trouble why so many fail in it is that they do not properly attend to it. Men will give their horses and cattle the best of care, but when it comes to the bees they let them take care of themselves, with the exception of hiving swarms and putting on and taking off boxes. In this way there is no profit, and little, if any, pleasure in apiculture. What would they expect from their cows if treated in that way?

The keeping of cows means milking twice a day for at least 210 days out of the year, and feeding them three times a day for 180 days, saying nothing about cleaning stables and other work necessary to carry on a dairy. When men are willing to thus care for bees they will find they will give as much profit as can be obtained from cows, or any other branch of rural industry, and in this profit comes very largely the pleasure side of the question.

Bee-keeping means work, with enthusiasm enough put into it to make this work real fun; a place for everything, and everything in its place, and to know how to do things just at the right time and in the right place, if we would make it both pleasurable and profitable.

We also want the best bees, the best hives, and all modern appliances, just as our enterprising dairyman would have the best breed of cows and the best utensils to care for the milk. Also, a man must have a liking for the business. No man will ever make bee-keeping profitable who prefers to lounge around a country tavern or store instead of working in the apiary. In fact, a person will not succeed in any business unless he has enough love for his calling in life so he will be diligent and faithful thereto. "Seest thou a man diligent in his business? he shall stand before kings," was what King Solomon told his son, and the saying is as true to-day as ever it was.

Again, to be successful in any business, a man must "grow up" into it by years of patient toil and study, till he becomes master of that business, when in ninety-nine cases out of 100 he will succeed. It is this getting crazy over a business which looks to be a good thing, but with which we are not acquainted, and in-

vesting all we have in it, expecting to make a fortune, which ruins so many and gives no pleasure as a result.

In the winter of 1868-69 I became interested in bees by reading the first edition of King's *Bee-keepers' Text-book*, which chanced to fall into my hands. Next, I subscribed for a bee-paper, read Quinby's and Langstroth's books, and in March bought two colonies of bees and the hives I needed for two years, paying $30. 1869 being a poor year I had but one swarm from the two, and had to feed $5 worth of sugar to get through the winter. In 1870 I received enough from them to buy all the fixtures I wished for 1871, and a little to help on my other expenses from the farm.

So I kept on making the bees pay their way, as I had resolved at the outset that, after paying the first $35, I would lay out no more money on them than they brought in, believing that if I could not make two colonies pay I could not 200.

In the fall of 1873 I found I had an average yield of eighty pounds of comb honey from each colony I had in the spring, which was sold so as to give me $559 free of all expense incurred by the bees. I also bought an extractor that season.—G. M. DOOLITTLE, *in "American Bee Journal."*

(*To be concluded next week.*)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication. All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. SEAMARK.—*Super Clearers.*—There is no reason why you should not prefer to clear supers of bees by removing them away from the hives if you can manage best that way, but we consider it much more simple to raise the surplus chamber, set the clearer below, and leave it. Or, if further surplus room is required, prepare the empty surplus chamber with the "clearer" above it, then lift off the full box from the hive, and set it on the clearer, replacing the whole at once. As the bees leave the full box they find themselves in the empty one and are ready for work there.

CONSTANT READER (Bridgwater).—It is impossible to say what has caused the death of bees sent; there is no special appearance of "old age" about them. Have they plenty of food?

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

Special Prepaid Advertisements.

FOR SALE.—60 lbs. Pure Extracted Honey at 7*d.* per lb., free on rail. Address H. COLLIER, Nayland, Colchester.

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE:

17 KING WILLIAM STREET, STRAND, LONDON, W.C.

The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to John Huckle, and crossed "Bucks and Oxon Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee-appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

GARDENER WANTED.

GOOD References. Must understand the MANAGEMENT OF BEES. Married preferred; no Encumbrances. Good Cottage and Wages. Address G. FLOWER, Stokenchurch, Tetsworth, Oxon.

WANTED.

BRITISH HONEY. Any quantity bought, in Sections. Apply to THOMAS B. BLOW, Welwyn, Herts.

STEAM FACTORY for Bee Appliances.

ORDERS addressed J. ROSS, Stranraer, Wigtownshire, N.B., will be attended to.

THE
British Bee Journal,
BEE-KEEPERS' RECORD AND ADVISER.

No. 549. Vol. XX. N. S. 157.] DECEMBER 29, 1892. [*Published Weekly*

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Less than ten days ago it appeared as if we were going to have a Christmastide with bees flying and the weather warm enough for examining hives and doing a little feeding if urgently needed. While writing we have instead a temperature so low as to render the whole country hard as iron, and, in consequence, bees badly prepared for winter are likely to be subjected to a severe strain before an opportunity occurs of attending to their wants. In several places north and south 17° to 19° of frost were registered on Christmas Day, while even in London the temperature on the grass went down as low as 15° Fahr., or 17° of frost. Moreover, it seems as if the cold had come to stay, the weatherwise having predicted a long winter, and certainly present indications point to continued hard frost.

In view of this it will be well to add to coverings where hives are not already well provided therewith. There should also be some special effort made in extreme cases to save bees known to be badly off for food; they will probably be past help if compelled to take "pot-luck" till they can be relieved in the ordinary way. We have saved stocks apparently past restoring before now by carrying them indoors during hard frost, and treating them in a warm room. When doing this the point is to have the food *warm*, and to give it *before* reviving the bees, and, while the "warming up" process is going on to have them securely confined to their hives, keeping them so until they are thoroughly "cooled down" again. The hives should also be returned to their stands after nightfall.

THE DOUBLE-QUEEN SYSTEM.—We are very pleased to notice Mr. Wells so willingly replying to all inquiries regarding the big results recorded by him in our pages. To those hearing of these large harvests and reading details of such successful bee-work there is nothing, we should think, more interesting than having presented to them an opportunity of seeing how the work is done, and hearing from the lips of the operator such details as he only can give. And if anything were needed to prove Mr. Wells' *bonâ fides*, it is furnished in that gentleman's generous invitation, on p. 506, offering free inspection of his apiary to any bee-keeping reader who may be disposed to pay him a visit. No doubt, such results as have been recorded of the double-queen system seem hardly possible to some bee-keepers, but if our readers do not press too hardly on the good nature of Mr. Wells, by occupying more time than he can well spare, or by visiting him in too great numbers, no doubt they will receive a useful lesson in bee-keeping by observing the methods employed and profiting from them.

SPECIAL NOTICE TO READERS.

It may not be out of place at the close of another volume to again ask for the co-operation of readers in facilitating the business department of the *B. B. J.* by not mixing up Literary matter along with that dealing with Subscriptions or Advertisements. Communications referring to the latter should be written on separate paper, and addressed, "Manager, *B. B. J.* Office"—not "Manager" only—or they often find their way into the hands of the manager of a certain bank whose offices are under the same roof, thus causing unnecessary trouble and delay. The words *Bee Journal* should also be written at the head of letters intended for the weekly.

These few simple details attended to, we believe the centralising of the business under one roof will be helpful all round, while the circulation of the paper will be assisted in many ways quite unattainable under the old arrangement.

THE KEEPING OF BEES FOR PROFIT AND PLEASURE.

(*Concluded from page* 504.)

As I was determined to give the bees the care they needed, and knowing that the time the bees needed the most care came in hayingtime, I hired a man to take my place in the hay-field. It so happened that he commenced work on the day basswood (one of our best honey-producing trees) opened. Previously I had hived a single swarm in an empty hive, and concluded to devote them to extracted honey.

The man worked sixteen days at $1.75 per day, and I extracted, during those sixteen days, honey enough from this swarm to pay the man for his work. I state this to show that one new swarm of bees was equivalent to myself in the hayfield; yet how many keeping from thirty to fifty colonies of bees leave them to go into the hay and harvest-field, and then tell us bee-keeping is not profitable? You can hire a man to take your place in the field, but if you expect to become master of the bee-business, so as to make it pay, you cannot hire a man to take your place in the apiary during the honey season.

But to return. In 1874 my honey was sold so as to bring $970 free of all expenses. At this time I began to think of giving up the farm, but finally concluded to hold on to it one year more. After deducting the expenses of the bees from the sales, I found I had the next year (1875) the amount of $1431, and hesitated no longer, but gave up farming and embarked in the bee-business as an occupation.

Without going into further detail I find that, after deducting all my expenses except my time, I have $17,982 as the sum total for eighteen years of bee-keeping, since they began to more than pay their way; keeping on an average only fifty colonies, spring count, each year. This will give me a salary of $999 a year, as will be conceded by all.

But what about the first four years, during which I was experimenting, reading, and thinking about bees in all my wakeful hours, many of them hours when I ought to have been asleep, giving the subject as much or more study than any lawyer ever spent on his profession? To be sure the bees paid their way, but to what shall I look for my pay? To be just I must divide my $17,982 by twenty-two years, which gives me about $817 a year as the real pay I received for my labour. Is this enough pay for the labour performed? Well, many would not be satisfied with it, and multitudes would be glad to receive such a salary.

One of the largest honey-producers of our State once said to me, "That a man who was capable of successfully managing such an apiary would command $1000 salary a year in any business." If we accept this statement as a fact then I should have been better off in this world's goods if I had never kept bees. But when I turn my eyes to the thousands who do not get one-half $817 a year, working in factories, in the shop, on the farm, and doing drudgery of all kinds and descriptions, I turn my eyes back with pleasure to this fascinating and health-giving pursuit—bee-keeping—and say, "It is enough; I am satisfied."

In conclusion, let me say, if a person is not willing to spend the time on the bees which they require, he had better keep out of the business, for sooner or later he will turn from it in disgust, if it is undertaken with the idea that "bees work for nothing and board themselves."—G. M. DOOLITTLE, *in "American Bee Journal."*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only, and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

*Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "*The EDITORS of the 'British Bee Journal,' 17 *King William Street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, 'British Bee Journal' *Office, 17 King William Street, Strand, London, W.C." (see 1st page of Advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

CRITICISING THE "WELLS" SYSTEM.

[1278.] I have trespassed somewhat largely upon your columns of late, but will ask further indulgence for a brief reply to the "Village Blacksmith" (1262, p. 487). Firstly, as to a swarm weighing fourteen pounds, I see nothing enormous about it considering that they issued from a hive which contained fourteen standard size and fourteen five-and-a-half-inch frames for brood nest, and seventy frames tiered up in five surplus boxes, all crammed with bees. If your correspondent could have seen this colony at work on a fine day in June I think it would have removed his doubts. In fact it may be that the other two swarms which issued from similar hives were still heavier than the one referred to, because in those latter cases one of the two queens was captured, and in consequence the bees settled in one huge lump, whereas in the case of the one which was weighed neither of the queens were captured in the act of swarming, so the swarm settled less thoroughly and the bees were somewhat knocked about in hiving, and the size of the swarm must have been reduced by bees going back to the parent hive. Therefore in stating that this swarm weighed *over* fourteen pounds I was quite within the mark.

Secondly, as to the amount of wax. Of course this depends very much upon the circumstances. If surplus is taken away early in the season, and the combs are returned for refilling after

extracting, less wax would be obtained. I never remove more surplus than I am obliged to until the end of the season, which gives me more wax. Again, in some seasons I have more old combs to melt up than at others, and all these things cause a variation in quantity. I stated (on page 438) that I should have about thirty pounds of wax, and perhaps our friend "Village Blacksmith" would like to know how I got at that? If so, in reply, I may tell him how I made up the weight. First, I knew I had got nearly a thousand pounds of honey, and that the capping from each 100 pounds would give me about one and a half pounds of wax; so I judged this alone to make fifteen pounds. I also knew that I had put aside about a hundred combs for melting down, which I calculated would make up the weight to thirty pounds, and I did not suppose I would be troubled to actually weigh the wax; but, on our friend inquiring, I put it on the scales, and find that it weighed twenty-nine pounds nine ounces—not a very bad guess, being only seven ounces short of my estimate.

Then, as to the number of frames of comb, about which some doubt seems to exist. It must be remembered that, in addition to the ten stocks at work, there were the nine nucleus hives, which had to be formed, and continually adding fresh combs as required all the time these nuclei were breeding.

Now, if we say that—

The 5 double stocks required 98 combs each,
" 5 single " " 42 " "
" 9 nucleus " " 8 " "
we have a total of 772 combs.

I do not say that the combs were utilised exactly in the above form, but something like it, and, at any rate, I should have used a few more combs if I had got them by me.

Now, Messrs. Editors, while it is a pleasure to me to give every explanation in my power in order to make my statements clear, I must draw the line somewhere, in consideration of your valuable space and also of my own time; but if our friend the "Village Blacksmith," or any other of your readers, would like to see what I have got by way of bee-keeping and how I manage, I shall be very pleased to show them all there is to be seen in and about my apiary, and to tell them anything that I know, if they like to visit me at any time in the year; such visits must, however, be by appointment, or I might not be at home, and the hours must be after 6 p.m. the first five days, and after 3 p.m. on Saturdays. Sunday visits I cannot, on any account, make business appointments for or receive.—G. Wells, *Aylesford, near Maidstone.*

WILL BEES PAY FOR KEEPING IN YORKSHIRE?

[1279.] I see our friend "J. B. K." (1263, p. 488) is rather doubtful if bees will pay to keep in this county. Now I think if they are properly managed they will pay very well, and to prove it I can only give my own experience, which, like my friend's, is limited, as I only commenced six years ago. The first two years I made a hash of it, being like the man who went skating—I was well up in theory, but down in practice; but, nevertheless, I gained experience, and, as a rule, experience is dearly bought.

To the best of my knowledge 1888 was a disastrous season all round, so thinking stocks would be at a premium next year I bought a lot of bees without stores cheap, and increased my stocks to twenty-five, and fed up. The result was I worked principally for swarms in 1889, and, although I had to remove the whole lot in the spring forty miles by road and rail, yet by putting an advertisement in the *B. B. J.* I cleared over 9*l.* for swarms alone, and had a surplus of about two hundredweight of honey—stocks reduced to twelve. As my bees were now thirteen miles from my residence I could not give the attention necessary to make them profitable, so since then I have had no real chance, having invariably lost one or two swarms.

The following year, 1890, was again disastrous. Although I had all stocks at boiling heat the weather never permitted me a look in, and my stocks were reduced to six the following spring, the others having died really from paucity of bees and severity of cold, as you will remember the winter was very severe.

During 1891 I saw the bees about once a fortnight, and thinking to prevent swarming, so that I should not lose any, I tried a new dodge. At the beginning of the honey-flow, when my best stock was on the point of swarming, I sought out the queen and removed her, cut out all the queen-cells except one, kept them warm, and then removed all the queens from the rest of stocks, and, where queen-cells were forming, destroyed them and introduced the queen-cells from best stock, thinking these would be hatched out, and before they began to lay a great deal of the brood would be hatched off, causing many cells to be empty, and therefore remove the desire to swarm. It was not a complete success. The original stock and two more answered, and three did not, the result being that, from those which did not receive the given queen-cell, I had more swarming than ever, in fact, I never could account for it, as they kept swarming up to the end of three weeks from the time of removing queen. I engaged a man to look after them a bit and take the swarms, which he did. I believe there were seven of them, and he placed them in a row in straw skeps, and when I went over I made them into two in frame hives, increasing my stocks to eight. Well, it happened very lucky after all this experiment, because having all the hives queenless at this time it threw the whole of the working population into the fields, and just caught the season in the nick of time, for, after three weeks, the weather broke and the season was over. I extracted about two and a half hundredweight of the finest honey I have ever seen or tasted, and not being there to retail it

out even if I could, I offered it in bulk to a firm in Leeds, only keeping a little back for home consumption and private friends. I offered it at 7½*d.* per pound, and received cash seven pounds odd, besides which I had about eighteen pounds of wax, going into winter quarters with eight stocks.

In the spring of 1892 things were bad, one stock queenless and another very weak. Added them to next, but the season being so very late, and the weather cold and wet, I made very little headway; but the stocks having so far advanced, and not wishing to try the experiment of the previous year, I decided on Whit Monday, which was a very hot day, to take off artificial swarms, and did so, but reduced old stocks too much, and when, on the Thursday following, it came just as dreadfully cold as it had been previously hot, all the brood was chilled, and my experiment ended disastrously. You may say this was bad management, but what could I do living so far away? The sparrows had a proper feed for a week or two afterwards, picking up the white grubs which the bees were continually hauling out. When the combs were clear I had nothing to do but return the swarms, and I was where I was before, but a sadder and wiser man. At the end of the dreary season, after re-queening all, I had about sixty pounds of black honey, unfit for sale, which I fed back, and went into winter quarters with eight stocks ready for another season, which, as each alternate season has been a good one, I am hoping for a good time in 1893. I would much sooner write of success than disaster, but perhaps the above may be a warning to some one who might possibly think of working in the same way.

I make all my own hives, and work the supers with shallow frames, 14 × 4½ inches. My bee-keeping has not been a great success, but I think, taking into consideration the small amount of attention I gave to them, it will compare favourably with my friend's, and if I can obtain two and a half hundredweight of good honey from eight stocks in one season—well, certainly the honey must be there, and all we have to do is to properly manage the bees, and they will collect it, and if one year is bad, look forward to the next to make it up.

As for the price of honey, I consider it much better to sell the whole of it in bulk at 8*d.* per pound, and have no trouble with it, than be messing about retailing it in small quantities.—Apis Mellifica, *Leeds.*

MY FIRST YEAR'S EXPERIENCE IN BEE-KEEPING.

[1280.] Not being very well, and compelled in consequence to stay indoors, I have been amusing myself by jotting down my first year's experience in bee-keeping, and judging by some of the queries asked that many readers of the *B. B. J.* are, like myself, quite amateurs, I thought my adventures might interest, amuse, and perhaps encourage some to persevere in bee-keeping.

Well, sirs, about twelve months ago last July I was returning from London by train. I noticed a working man seated opposite me perusing his *B.B.J.* I happened to know him, so I asked if he had something good. He smilingly replied he had "something *very* good," and, laying his paper aside, he began to expatiate on the wonders of the beehive. He spoke of queens, drones, workers, larvæ, eggs, &c., so that by the time we arrived at our journey's end my curiosity was quite aroused, and I was anxious to learn more. He gave me his *B.B.J.* and we parted. A few days after he lent me Mr. Cowan's book, the *British Bee-keeper's Guide.* I read it carefully through, and by this time had got seriously affected with "bee-fever." Up to this time I had never noticed a frame hive, although I was born and brought up in the country, and have lived something over forty years. With the help of the book, its drawings, measurements, &c., I soon produced a real "Cowan" hive, my friend pronouncing it "a real beauty." Another was soon made on the same lines, and both furnished with sheets of foundation in standard frames. My friend gave me four frames of ready-built brood comb to give the bees what he called "a start," and it only remained to get the bees. These were procured through your advertising columns. Two four-pound lots of driven bees arrived in due course. I was afraid to touch them myself, so my friend hived them for me. I must have cut rather a ridiculous figure with my bee-veil on, coat collar turned up, trousers tucked inside my socks, and hands carefully wrapped up in a large leather apron! To my astonishment the job was completed without my friend getting a single sting, although he did not use gloves or smoker. An inverted bottle of syrup was placed over feed-holes, and all made snug and tight. The workers soon began to carry in pollen, so I felt assured they were going on all right. After this I made a rapid feeder, and fed them up for winter. I was surprised at the large quantity of syrup they took down. I bought cane sugar—six pounds at a time—at the grocer's, and before the bees were satisfied I was almost ashamed to go for it. Both lots passed through the winter all right, and I got more courage, so that by the time I put supers on many peeps inside were had at them, and after seeing both queens several times I began to consider myself quite an expert. I did not *then* believe in the let-'em-alone system; but in spite of all my interruptions they both got on very well. I put a crate of sections on each, and when they were filled put another underneath them. At the close of the honey-flow I removed them, a section at a time, with the help of my smoker (knowing nothing then of super-clearers). It was a tedious, troublesome job, and I got my hands stung badly. A neighbour of mine, who suffers with gout, on seeing my hands gave a knowing nod and said, "I see you've got it." "Got what?" I said. "Gout,"

he retorted. I was pleased to be able to set him right on that subject. One hive yielded me thirty-two, the other forty-three well-filled sections. Neither swarmed, and both have had to be fed up for winter. These were kept in a small yard in the centre of this town (Kingston-on-Thames), surrounded by lofty buildings. I have removed them to a garden I have, about one and a half miles from here, where I hope they will form the nucleus of a model apiary.—W. A. IDE, *Kingston-on-Thames, Dec. 23rd.*

A STANDARD HONEY BOTTLE.

[1281.] Originally I had no intention of writing again upon the subject of a standard honey bottle, but since I have been attacked upon my communication, I hope you will allow me to again trespass upon your columns. In regard to "Hemlock Stone" (1203, p. 428), he professes not to know the contents of a wine bottle because he has been a total abstainer for twenty years. I must accept his statement as true, and obviously decline to answer him, only hoping that his is a phenomenal case, and that total abstinence does not often lead to such ignorance.

In reply to Mr. Hill (1215, p. 439), November 10th: Par. 1, he says "he cannot agree with me in this matter." I don't quite see what he is aiming at in this paragraph, but I am glad to see he is an "admirer of high principles."

Par. 2.—He says: "We never know, when ordering, what will be supplied; whether fourteen, sixteen, or eighteen ounces," &c. Why "we?" He should speak for himself. If he will take the trouble to get a catalogue from Messrs. Breffit, he will find various bottles illustrated, and their fluid capacity given, and even one made to hold just (?) one pound of honey; but, judging from his opening remarks, he does not require this. The most usual bottle is the nominal one pound (ten ounces fluid capacity), holding about fourteen ounces of honey, or just half a pint. If he objects to selling nominal pounds, why not label and sell as half-pints?

Par. 3.—Here Mr. Hill quotes me as follows: "The public will purchase that article which has the best exterior appearance, *irrespective of quality*" (my italics), and goes on to say: "I am surprised to hear this," &c. I think he will himself admit that he is quoting me too literally here. Of course I mean that they will take that which has the best exterior experience in the absence of better judgment on their part. I am glad to know that the public at Derby do prefer English honey, as it is certainly the best, but I am afraid most Londoners are unaware of this undoubted fact.

Par. 4 I fully agree with.

Par. 5.—When Mr. H. confuses "trade customs" with "trade tricks," he shows he does not know what he is writing about. It is the custom to sell many things as nominal weights or measures (*i.e.*, short) besides honey, as well as to buy and sell by long weight or measure (*i.e.*, overweight), and to imply that this is dishonest is to at once accuse every grocer—and, in fact, most tradesmen—in the United Kingdom of being dishonest.

Par. 6.—Very fine finish.

Personally I have not much objection to a standard bottle, but I protest, in the name of trade. Any "standard" must imply a hard-and-fast rule, which is excellent in schools and in the army, but it is not at all practical in the commercial world. All those who sell honey wholesale will put up their honey as their customers require it, whether a standard bottle be fixed upon or no.—A. T. WILMOT, *St. Albans.*

Queries and Replies.

[702.] *Artificial Heating for Early Breeding.*—1. I have two hives of bees, and have put them into winter quarters all safely. One is a driven lot, and the other an established colony with seven or eight combs of honey. They have both an eight-pound cake of soft candy on top, so all things considered I trust they will come through all right. Now, as early breeding is considered one of the most desirable things in bee-keeping, I have thought of a plan and should be glad to have your opinion of it through the *B. J.* at your earliest convenience. There are some very small lamps sold to burn oil, and I thought that if I lit one of these every night and put it in the top of the hive, that it would raise the temperature of the hive, and thus stimulate the bees to early brood-raising. The lamps contain enough oil to burn about twenty-six to thirty hours, and only make a small blaze, so there is no danger of burning the hive. If you should think anything of this I should be glad of your advice. 2. Also, will you please give me the measurements of ordinary crates for twenty-one sections?—D. M., *Sydenham.*

REPLY.—1. Experiments have frequently been made with the view of "forcing" bees by means of artificial heat, as is done with plant life, but all have ended in more or less failure, and we advise amateurs especially not to waste time in that way. Any stimulating should be by means of slow, continuous feeding in spring. 2. Section racks of the ordinary pattern are usually made 13 × 15 inches, inside measure.

[703.] *Bees in a Chimney.*—I should like your opinion on the following:—A swarm of bees located themselves about four feet down a dummy chimney at a mansion; the gardeners, anxious to secure what honey there might be, drove them out with sulphur, which was introduced a little below them by taking out a brick. This took place about the 1st of September; five weeks afterwards I had occasion to remove a rain-water pipe at the mansion, not far from the spot, and was not a little surprised to find about half-a-dozen bees clustered on the wall

alive, and when I disturbed them some attempted to fly. My query is, how had they managed to keep alive that long time?—W. A. IDE.

REPLY.—The probability is that the few bees found would not belong to the original colony located in the chimney, but bees attracted thither from another hive by some trace of the honey left behind.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can only be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies, is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communication.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. H. BRENES.—*Honey for Chicago.*—All honey forwarded for the purpose will be sent to Chicago, save in the very unlikely event of some being unfit for staging as a sample of British honey.

F. F. (Clapham Junction).—"Bumping" is a term applied to a method of removing bees and combs from straw skeps different to the ordinary process of "driving." On the latter well-known plan the bees are driven from the full combs into an empty skep fixed overhead. In "bumping" the combs are broken away from their attachment by bumping the skep on the ground. The operator holding the skep with the combs parallel to himself as he does this, their own weight causes them to break away, and each comb is lifted out with its adhering bees, the latter being brushed off and allowed to run into an empty hive.

J. J. AND SON (Soham).—*Sugars for Bees.*—No. 7 for candy, and for syrup for winter. No. 4 for syrup used in spring and summer. Genuine Porto Rico is the only sugar really suitable for "dry feeding," and this is so scarce as to be most difficult to obtain; hence its omission from our list. Any raw sugar of fine grain may be given "dry," but it does not answer like the one referred to.

*** Several correspondents having written to this office asking for information regarding honey sent for Chicago, we beg to say its receipt will be duly acknowledged by the Hon. Sec. of the Sub-Committee of the B.B.K.A., who has charge of the exhibits.

*** *Correspondents will please note that all communications, whether relating to advertisements, subscriptions, or literary matter, must now be addressed to* 17 *King William Street, Strand, London, W.C.*

THE DEPOSIT SYSTEM.

British Bee Journal and Bee-keepers' Record.

OFFICE:
17 KING WILLIAM STREET, STRAND, LONDON, W.C.

The following are the Rules under which we are prepared to receive Sums of Money on Deposit from persons buying and selling goods.

In order to save trouble it is requested that the Rules be carefully read over by persons using the Deposit System of trading.

DEPOSITING.

1. Method.—When strangers are dealing together, the purchase-money of the articles is deposited at our office. We acknowledge receipt of the deposit to *both* parties, and hold the money until we are satisfied that the purchase is concluded. If a sale be effected, we remit to the seller the amount deposited, less a charge of 6*d.* and the expenses of Post Office Orders and postage, &c. Cash will be forwarded by cheque, Post Office Order, or by Postal Order as preferred. If a sale or exchange be not completed, we return the amount deposited, after making the same deduction. By this means buyers and sellers are secured from fraud.

2. Deposits.—Postal Orders (drawn on General Post Office) and Cheques must be made payable to MANAGER, *B. B. J.*, and crossed "London and Westminster Bank." The numbers of the Postal Orders should be kept by the sender. We cannot be responsible for any losses that may occur in transit.

3. Honey on Approval.—All honey will be sold by sample, which must be sent direct to buyer.

4. Bee-appliances.—In ordering, the time allowed for completing the order to be stated to us when sending cash. If maker accepts, we hold cash till transaction is satisfactorily completed, when the amount will be remitted subject to conditions as in Clause 1.

5. Bees and Queens.—These will be dealt with entirely by the parties concerned, so far as price, &c., goes, and when the purchase is satisfactorily completed cash will be remitted as per Clause 1.

6. Goods in Transit.—These are at the seller's risk, *i.e.*, any damage to or loss of an article on its journey is borne by the vendor; but a rejected article must be properly packed and returned by the same means as was used in sending it.

7. Carriage.—The carriage of all goods, *except such as are sent by post*, is payable by the buyer, unless otherwise agreed. If any article sent on approval be returned, each party to the transaction must pay carriage one way.

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